

**PROJECTED DEFENSE PURCHASES:  
DETAIL BY INDUSTRY AND STATE**

**Calendar Years 1998 through 2003**



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**July 1998**

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## **FOREWORD**

*Projected Defense Purchases: Detail by Industry and State* is issued by the Office of the Secretary of Defense (OSD). The estimates presented in the report are produced by the Economic and Manpower Analysis Division, Office of the Director for Program Analysis and Evaluation, Office of the Secretary of Defense.

The report provides projections of direct and indirect (defense-related) purchases from 50 major manufacturing industries, and estimates of direct and indirect defense spending in each state and the District of Columbia. An introduction presents a brief overview of the definitions, budgetary concepts, and expenditure categories used in developing the estimates, and offers some guidelines for interpreting them. The tabular material is divided into three sections:

Section I: Summary Tables – Industry Expenditures and Employment,  
Individual States and Entire United States

Section II: Projections for Selected Industries

Section III: Individual State Projections

Descriptions of table formats accompany the projections.

Additional copies of this report may be obtained on the PA&E public access website homepage, <http://www.ra.pae.osd.mil/depps>. A feedback form for comments is at the end of the report.

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### **Reader's Note**

With the 1996 edition of *Projected Defense Purchases: Detail by Industry and State*, the Department of Defense inaugurated a new version of the input-output model used to estimate defense and defense-related expenditures. The revisions to the model affect the estimates for specific industries, in large part because the industry definitions have changed as described below. In particular:

- The input-output model now includes 320 industries and is maintained by Interindustry Forecasting at the University of Maryland (INFORUM). It replaces the previous 429-industry model, which was maintained by DRI/McGraw-Hill. Because fewer industries are represented in the new model, the definitions of some industries have changed. (The differences are greatest in the agriculture and service sectors.)
- The model now reflects the standard industrial classification (SIC) system promulgated by the Office of Management and Budget in 1987, rather than the 1982 SIC system, which underlay previous projections. This change also affects the definition of industries, particularly the electronics industry.

Both of these modifications affect projections for individual industries. For example, one of the largest industrial sectors in the earlier projections was the Radio and Television Communications Equipment sector, which included electronic sensors used in many defense applications. The 1987 industrial classification system contains more detail on electronics sectors; it therefore is now possible to break out purchases of sensors from the remainder of radio and television communications equipment, and to produce projections for this individual industry.

In addition, the industries from which research and development purchases are made can now be better identified. Whereas funding for bench research and basic exploration was formerly allocated to the major weapons-producing sectors (e.g., aircraft, missiles, radio and TV equipment, etc.), such funding is now allocated to research laboratory, engineering, and architectural services industries.

The restructuring was so substantial that the input-output model has been renamed. The model is now called the Defense Employment and Purchases Projection System, or DEPPS. **The projections presented in this report should not be compared with estimates published in earlier editions, for states or for industries.**

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## **INTRODUCTION AND HIGHLIGHTS**

This report presents estimates of defense purchases during calendar years 1998-2003 from 50 industries that are major defense suppliers. The report also provides projections of defense-related employment and of defense and defense-related spending for each of the 50 states and the District of Columbia during 1998-2003. The estimates are based on the President's budget submission of February 1997, and on the geographic distribution of the major components of defense spending in the recent past. A description of the model and data used to generate the estimates may found in supporting documentation.<sup>1</sup>

The figures reported here are projections; they do not necessarily reflect what actual defense expenditures will be in various industries or states in future years. Purchases from particular industries will depend upon the size and composition of the defense budget enacted by the Congress; the location of purchases will be determined not only by the level of defense spending, but also by the location of industries and by competition among firms within industries, both for prime contracts and for subcontracts.<sup>2</sup> The projections therefore serve as benchmarks: *they describe the future pattern of defense and defense-related expenditures, assuming that each state's shares of the various components of defense activity remain as they were in the recent past.*

The input-output model used to produce the projections was completely rebuilt in 1996, and the definitions of industries for which projections are reported have changed. (The new projections divide the economy into 320 industries, rather than the 429 industries employed in the previous model.) The restructured model produces more accurate and useful projections; *the changes are significant enough to render comparisons with projections made before 1996 inappropriate, for states as well as industries.*

### **Definitions and Coverage**

The estimates presented in the following sections consider both "direct" and "indirect" defense expenditures. Direct defense expenditures are those that the Department of Defense

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<sup>1</sup> Forthcoming from Economic and Manpower Analysis Division, Office of the Director, Program Analysis and Evaluation, Office of the Secretary of Defense, Room 2D311, Pentagon, Washington, D.C. 20301-1800, telephone number (703) 697-2999; to be available at <http://www.ra.pae.osd.mil/depps>.

<sup>2</sup> The Directorate for Information Operations and Reports in the Washington Headquarters Services publishes comprehensive data on prime contract awards and personnel expenditures, by state, in a volume entitled *Atlas/State Data Abstract for the United States*. The edition covering fiscal year 1997 is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, and at <http://web1.whs.osd.mil/mmid/pubs.htm>.

(DoD) itself makes. Examples include purchases of goods and services, as well as military and civilian pay.

Indirect (or defense-related) expenditures, by contrast, represent purchases — generated throughout the economy — of items used to produce goods bought by DoD. That is, indirect expenditures reflect the costs of materials, tools, and parts that prime contractors buy from suppliers in order to perform work for which DoD has contracted. Those sales, in turn, trigger subsequent rounds of transactions, as subcontractors purchase goods and services from their major suppliers and those firms place orders with companies at lower tiers of the production chain. The term “indirect defense purchases” applies to this sequence of purchases — of goods and services from subcontractors and lower-tier suppliers.

“Indirect defense purchases resulting from direct pay,” shown in the state-level tables in Section III, refer to the production of goods and services consumed by DoD’s civilian and military employees. Estimates of these expenditures are included in the statewide tables because the concept has been of interest to planning agencies and others concerned with local economic development. The methods used to generate these estimates are viewed as experimental, however, and are still under development. Indirect defense purchases resulting from direct pay are *not* included in the industry estimates reported in Section II.

The employment estimates include DoD civilian employment and employment resulting from direct and indirect DoD purchases of goods and services. Employment generated by indirect purchases resulting from direct pay (i.e., by personal consumption expenditures) is *not* included in the estimates.

**Budget Concept Employed.** The DEPPS projections are expressed in terms of outlays. Outlays represent disbursements of funds made during the course of a year. In contrast, budget authority is the amount of money that Congress authorizes DoD to obligate in any given year. Budget authority differs from outlays in that contractual obligations (which must be within the limits set by budget authority) often call for payments to be spread over a period of years, as work is completed. (Budget authority for RDT&E and procurement projects, in particular, tends to be disbursed over several years.) Thus, during periods of budget growth, budget authority tends to exceed outlays in any given year.

**Coverage.** The federal budget is divided into a number of sections (called “functional categories”), each containing programs serving a common purpose. National security-related programs are grouped into Functional Category 050 (National Defense). This category *includes* all of the Defense Department’s *military* programs plus national security programs administered by other federal departments, such as the Department of Energy. It *excludes nonmilitary* programs managed by the Department of Defense (for example, highway bridge inspection projects conducted by the Army Corps of Engineers).

The DEPPS projections are based on a narrower budget grouping, Functional Category 051 (Department of Defense, Military). This category *includes* all of the Defense Department’s military programs, but *excludes* national security programs administered by other agencies and

DoD programs serving civil functions (principally public works projects of the U.S. Army Corps of Engineers). The projections also include disbursements of military retirement pay.

The defense budget (defined here to include only those programs falling within Functional Category 051) is partitioned into five major accounts: military personnel; operations and maintenance (O&M); procurement; research, development, test, and evaluation (RDT&E); and military construction. The titles of these accounts are reasonably descriptive of the types of expenses they cover:

- The *military personnel* account covers the pay of active-duty service members and reservists as well as some other personnel-related expenses, such as permanent change-of-station travel and purchases of military uniforms. Also included in this account is DoD's share of the government's annual payments into the Military Retirement Fund (see below).
- The *O&M* account funds the day-to-day operations of the defense establishment. Money from this account goes to purchase fuel and other consumable items and to pay all but a small share of DoD's civilian work force.
- The *procurement* account covers purchases of weapons and equipment, and other military capital goods.
- The *RDT&E* account pays for the development and testing of new military systems, and for other research activities and associated civilian pay.
- The *military construction* account covers the cost of constructing military facilities and of providing housing for military personnel and their dependents.

The DEPPS projections include disbursements of military retirement pay from the Military Retirement Fund (Functional Category 602 in the *Budget of the United States Government*). This trust fund receives payments from the military personnel account of the defense budget (i.e., from Functional Category 051) as well as from the general fund of the federal budget; the balance in the Military Retirement Fund is invested in U.S. government securities and earns interest. Annual disbursements from the Military Retirement Fund are currently larger than DoD's annual payments into it.

The DEPPS projections include all outlays from the DoD military personnel account *except* payments *into* the Military Retirement Fund. Military pay and annuity payments to military retirees have different geographical patterns; accordingly, the projections use two different, historically-based distribution rules — one for military pay and one for retirement pay. Because the DEPPS projections include disbursements of retirement pay, the summations across states of direct defense purchases slightly exceed outlays from Category 051.

## **Highlights of the Projections**

The composition of projected defense purchases is quite different from the composition of purchases in the nondefense economy. Figure 1 presents information on the composition of projected defense and nondefense final purchases in 1999, excluding salaries. A large proportion of defense purchases — 56 percent — are made from manufacturing industries. In contrast, only about 34 percent of nondefense final purchases are made from the manufacturing sector of the economy. Services constitute about 39 percent of defense final purchases, but about 60 percent of nondefense final purchases. (These are non-labor purchases; if DoD personnel costs are included, the share of purchases from manufacturing industries is roughly equal to the economy-wide share.)

Figure 2 presents information on the composition of estimated defense and nondefense indirect purchases — the sales of tools, materials, and supplies used as intermediate goods in the production process. Indirect defense purchases more nearly resemble their nondefense counterparts than do direct defense purchases; manufacturing accounts for about 41 percent of projected defense indirect purchases, and for about 39 percent of projected nondefense indirect purchases. Services account for half of projected defense and nondefense indirect purchases.

The first table in Section I of this report lists the 50 manufacturing industries with the largest (direct plus indirect) projected defense production. While some of these industries are armaments or defense-oriented (shipbuilding, tanks and tank components, aircraft, and guided missiles, for example), a significant share of defense purchases are made directly or indirectly from industries not so obviously oriented toward defense activities (e.g., electronics, blast furnaces and steel mills, motor vehicle parts, industrial controls, and telephone and telegraph equipment).

**Defense-Related Employment.** Defense-related civilian employment (including the civilian work force of the Department of Defense) represents about 1.8 percent of projected total U.S. civilian employment in 1999. The composition of defense-related civilian employment (in 1999) differs somewhat from that of nondefense employment. The differences reflect the manufacturing intensity of defense purchases, as well as specific employment patterns of the individual industries from which defense purchases are made.

Occupations primarily associated with manufacturing industries (e.g., precision production, craft, and repair) account for a large share of defense-related employment, while service and agricultural workers account for a large proportion of nondefense employment (see Figure 3). Engineering workers also account for a somewhat larger share of defense-related employment (7 percent) than they do of nondefense employment (1 percent). More detailed tabulations of defense-related employment (including engineering and scientific personnel, by specialty) are provided in Section I.

**Defense Expenditures by State.** Table 1 presents estimates of direct, indirect, and total (direct plus indirect) per capita defense expenditures in 1999 for each of the nine U.S. census divisions and for the United States as a whole. For each region and each expenditure category,

the table provides both an estimate for the census region and a range of estimates corresponding to the upper and lower bounds of the projections for the *individual states* within the region.

The geographic distribution of defense expenditures reflects both the distribution of military personnel and DoD civilian employees, and that of the industries that make defense goods. While New England, for example, ranks seventh among the nine census regions in defense pay per capita, it ranks third in total projected defense purchases and third in total projected direct expenditures.

The dispersion within regions is large relative to the dispersion across regions. For example:

- Six of the nine regions contain one or more states in which total projected defense expenditures (direct and indirect) exceed the national average.
- All nine regions contain at least one state in which total projected defense expenditures are less than 60 percent of the national average, and at least one state in which total projected defense expenditures are greater than 60 percent of the national average. At the same time, seven regions contain at least one state in which total projected defense expenditures are less than 50 percent of the national average, and seven regions contain at least one state in which total projected defense expenditures are greater than 90 percent of the national average.

The DEPPS projections describe the pattern of defense and defense-related expenditures, assuming that the geographic distribution of the various components of defense activity remains what it has been in recent years. The actual course of completion of defense contracts may produce a future geographic pattern that differs from historical distributions.

**Total Defense Expenditures.** Table 2 displays expenditures from the entire DoD budget by major account, as well as procurement expenditures for major categories of weapon systems. The sum of expenditures each year is the total of DoD's outlays for the calendar year.

### **Limitations of the Projections**

The projections of defense purchases presented in Section I comprise direct and indirect purchases from various industries. They attempt to include all defense purchases, *whether or not the purchases are made domestically*.

By contrast, the state-level projections include *only* purchases and pay estimated to be made in the 50 states and the District of Columbia. They exclude expenditures made abroad or in U.S. territories, the pay of military personnel stationed on ships in foreign waters, and expenditures for imported goods. In order to factor out such expenditures, historical data showing the distribution of military personnel are used and an assumption is made about the level of defense imports. Specifically, it is assumed that, for the products of any given industry,

imports constitute the same share of defense purchases as they do of civilian purchases. Because the Defense Department is required to channel most of its purchases to domestic firms, and because defense purchases often represent specialized products, the percentage of defense purchases accounted for by imports may be lower than this assumption suggests. To the extent that this is the case, the projections will underestimate the proportion of defense expenditures occurring in the United States.

### **Comparisons With Previous Estimates**

The input-output model used to generate estimates for this report has been rebuilt since the document was last issued. The revisions to the model affect results for specific industries. In particular:

- The input-output model now includes 320 industries and is maintained by Interindustry Forecasting at the University of Maryland (INFORUM). It replaces a 429-industry model that was maintained by DRI/McGraw-Hill, which was used before 1996. Because fewer industries are represented in the new model, the definitions of some industries have changed. (The differences are greatest in the agriculture and service sectors.)
- The model now reflects the standard industrial classification (SIC) system promulgated by the Office of Management and Budget in 1987, rather than the 1982 SIC system, which underlay previous projections.

Both of these changes affect projections for individual industries. For example, one of the largest industrial sectors in the earlier projections was the Radio and Television Communications Equipment sector, which included electronic sensors used in many defense applications. The 1987 industrial classification system contains more detail on electronics sectors; it therefore is possible to break out purchases of sensors from the remainder of radio and television communications equipment, and to produce projections for this individual industry.

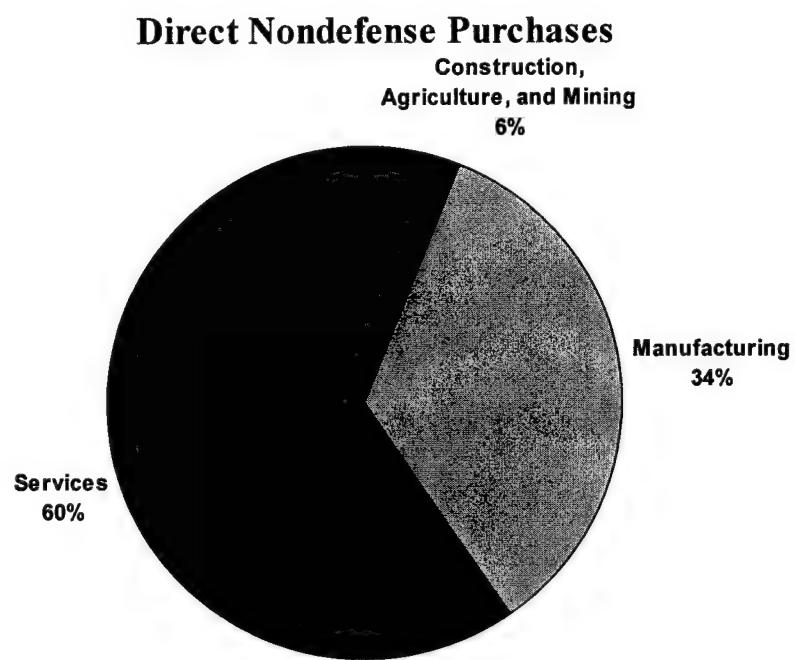
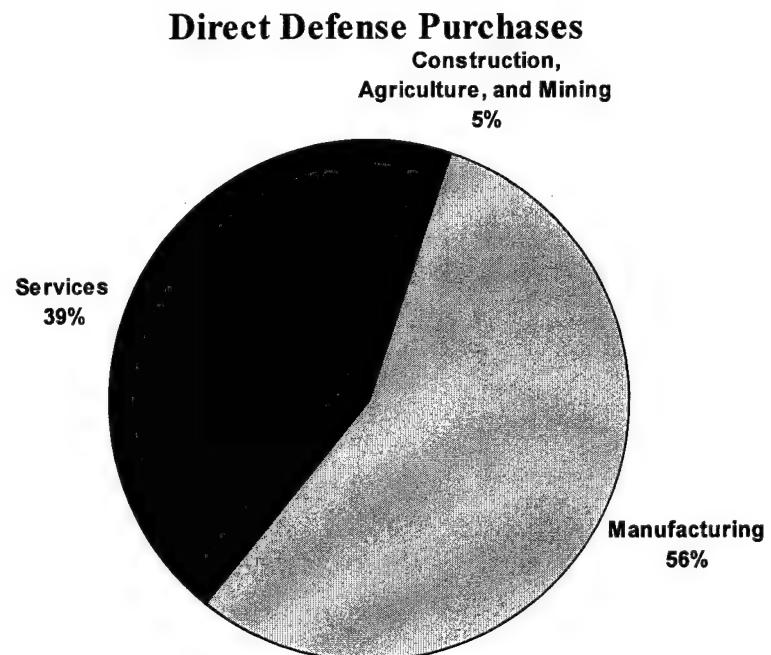
In addition, the industries from which R&D purchases are made now are better identified. Whereas funding for bench research and basic exploration was formerly allocated to the major weapons-producing sectors (e.g., aircraft, missiles, radio and TV equipment, etc.), such funding is now allocated to the research laboratory, engineering, and architectural services industries.

*Given the significance of these changes, the DEPPS projections should not be compared with estimates published in earlier editions of this report, for states or for industries.*

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**Figure 1.**  
**Composition of Defense and Non-Defense Purchases for 1999**

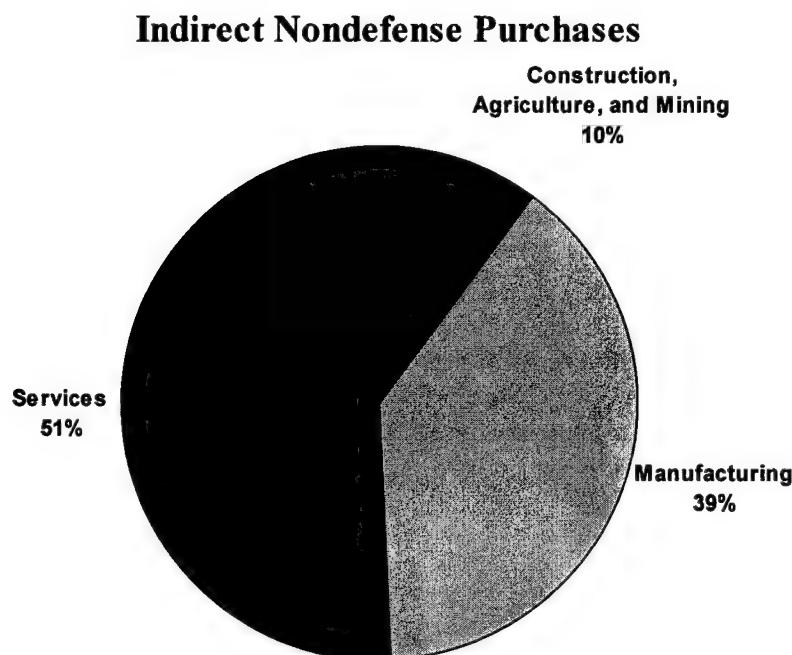
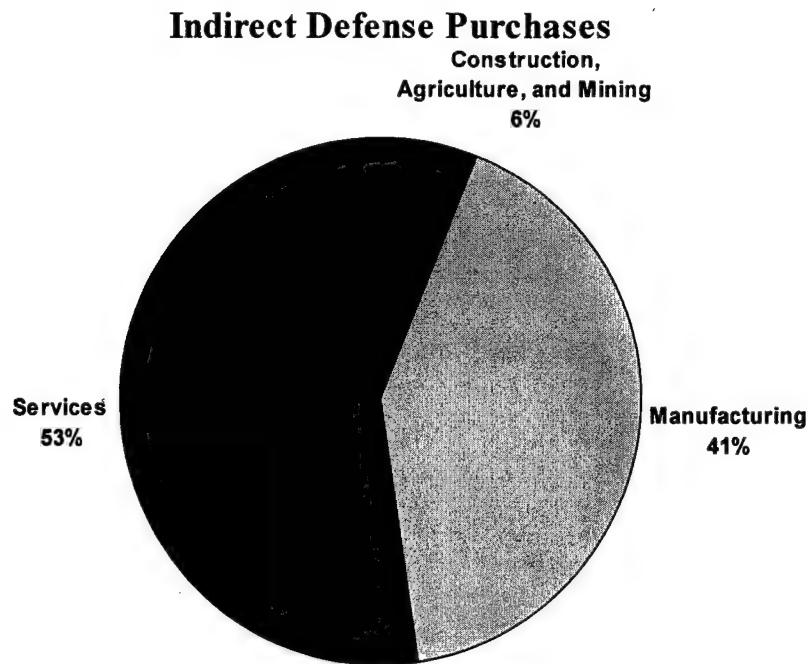
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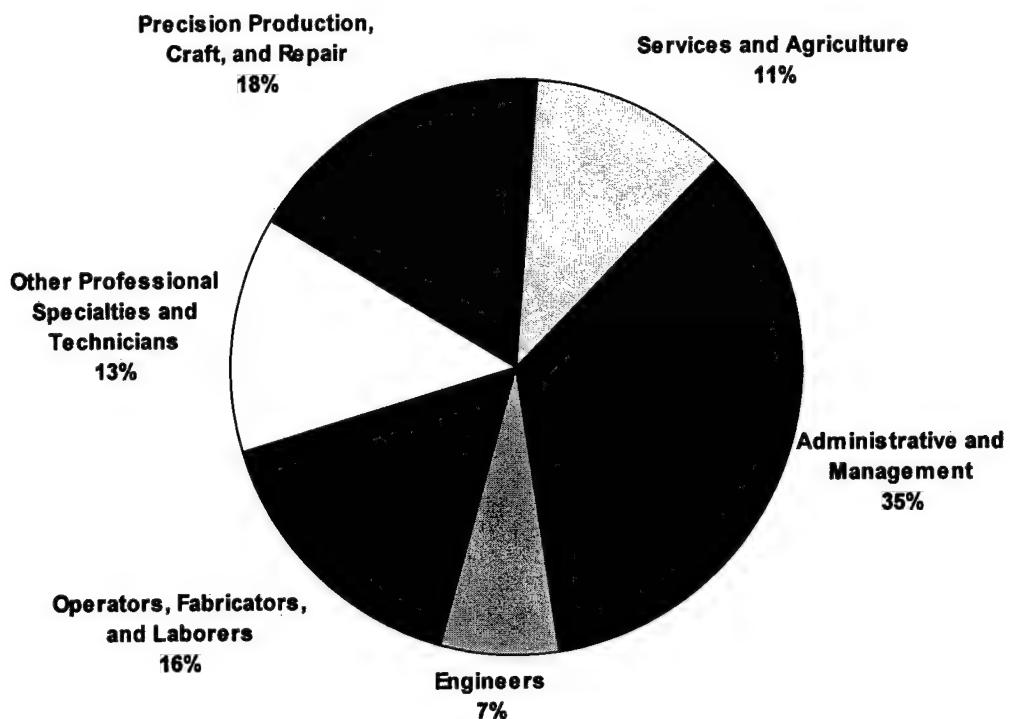
**Figure 2.**  
**Composition of Defense and Non-Defense Purchases for 1999**

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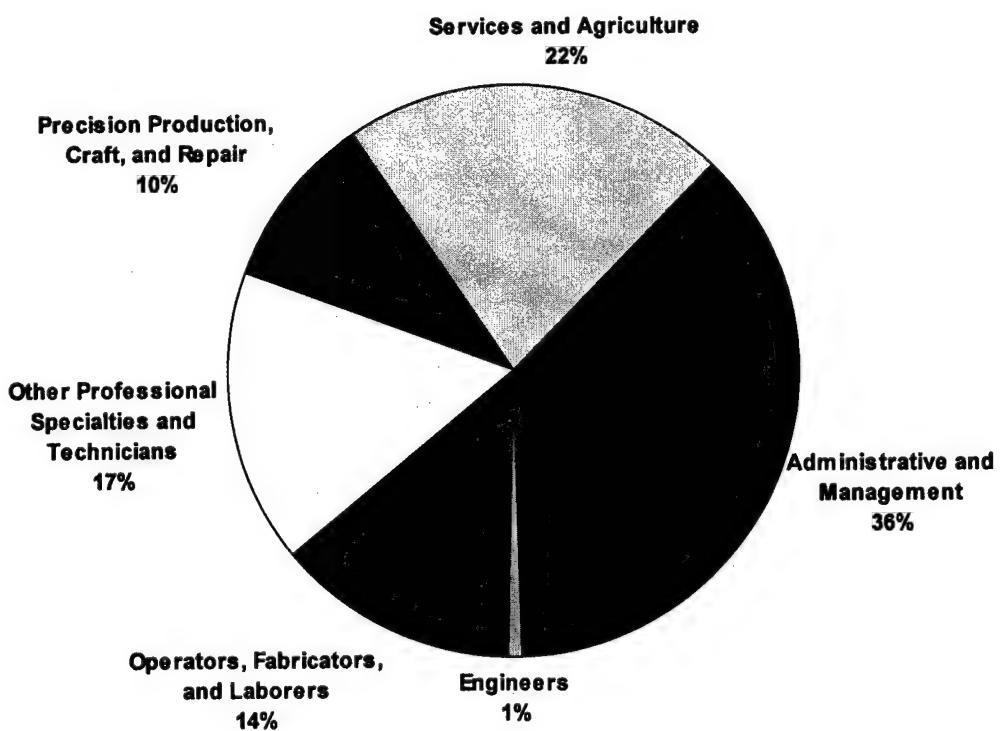


**Figure 3.**  
**Composition of Civilian Employment for 1999**

**Defense-Related Employment**



**Nondefense-Related Employment**



**Table 1.**  
**Estimated Defense Expenditures Per Capita, 1999**  
**(By region, in 1999 dollars)**

Region	Direct			Indirect	Total
	Pay	Purchases	Total		
New England	301 (164 - 524)	891 (145 - 1510)	1192 (314 - 2014)	797 (554 - 1425)	1988 (918 - 2668)
Mid-Atlantic	182 (106 - 228)	385 (308 - 516)	567 (437 - 728)	555 (464 - 629)	1122 (900 - 1357)
South Atlantic	945 (153 - 2793)	963 (77 - 3527)	1908 (231 - 6320)	988 (467 - 2427)	2896 (697 - 8748)
East North Central	168 (91 - 254)	257 (101 - 440)	425 (193 - 580)	548 (452 - 635)	973 (680 - 1215)
West North Central	364 (95 - 714)	428 (190 - 828)	792 (287 - 1176)	967 (403 - 2985)	1759 (689 - 3973)
East South Central	455 (221 - 583)	556 (229 - 1048)	1011 (559 - 1582)	636 (519 - 788)	1647 (1078 - 2156)
West South Central	471 (320 - 744)	397 (178 - 595)	867 (498 - 1024)	745 (517 - 884)	1612 (1015 - 1894)
Mountain	490 (296 - 728)	379 (107 - 1022)	869 (402 - 1622)	694 (462 - 852)	1563 (923 - 2414)
Pacific	996 (168 - 2121)	887 (57 - 2276)	1882 (225 - 3770)	936 (484 - 1358)	2818 (709 - 5128)
United States	526 (91 - 2793)	602 (57 - 3527)	1129 (193 - 6320)	796 (403 - 2985)	1925 (680 - 8748)

NOTES: The numbers in parentheses reflect the lower and upper bounds of the estimates for individual states in the regions.

New England: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

Mid-Atlantic: New Jersey, New York, Pennsylvania

South Atlantic: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia

East North Central: Illinois, Indiana, Michigan, Ohio, Wisconsin

West North Central: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota

East South Central: Alabama, Kentucky, Mississippi, Tennessee

West South Central: Arkansas, Louisiana, Oklahoma, Texas

Mountain: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming

Pacific: Alaska, California, Hawaii, Oregon, Washington

**Table 2a.**  
**Sources of Projected Direct Defense Purchases**  
**Department of Defense**

	Rounded to Millions of 1999 dollars				
	1998	1999	2000	2001	2002
<b>Military Personnel</b>	<b>71,115</b>	<b>70,182</b>	<b>69,092</b>	<b>65,398</b>	<b>66,394</b>
<b>Operations &amp; Maintenance *</b>	<b>94,309</b>	<b>92,441</b>	<b>91,733</b>	<b>91,183</b>	<b>88,927</b>
Aircraft	14,590	15,482	16,246	17,029	18,193
Missiles	3,039	2,771	2,837	3,235	3,642
Weapons and Tracked Vehicles	1,493	1,390	1,403	1,444	1,517
Ships and Conversions	7,755	7,556	7,492	7,566	7,317
Ammunition	292	290	282	272	272
Other	17,336	18,051	18,765	19,422	20,472
Total Procurement	44,506	45,540	47,025	48,968	51,412
RDT&E	36,119	35,232	33,386	31,969	31,398
Military Construction	5,484	4,942	4,439	4,221	3,866
Family Housing	3,942	3,749	3,681	3,697	3,665
<b>Total Direct Defense Purchases</b>	<b>255,474</b>	<b>252,086</b>	<b>249,357</b>	<b>245,436</b>	<b>245,663</b>

\* Includes net funds appropriated to revolving and management funds.

Note: Numbers may not add due to rounding

**Table 2b.**  
**Sources of Projected Indirect Defense Purchases**  
**Department of Defense**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>Military Personnel</b>	10,000	9,765	9,903	6,228	8,033	8,239
<b>Operations &amp; Maintenance *</b>	48,314	47,901	48,486	48,328	46,421	51,845
Aircraft	10,774	11,691	12,345	12,878	13,732	14,717
Missiles	1,833	1,684	1,778	2,105	2,453	2,729
Weapons and Tracked Vehicles	665	617	620	637	668	724
Ships and Conversions	5,170	5,025	4,981	5,029	4,846	4,766
Ammunition	251	246	237	220	220	231
Other	15,565	16,490	17,363	18,176	19,343	20,732
Total Procurement	34,258	35,753	37,323	39,046	41,261	43,900
RDT&E	29,409	29,069	27,842	26,888	26,695	26,928
Military Construction	3,985	3,591	3,127	2,836	2,163	2,003
Family Housing	1,648	1,570	1,547	1,573	1,560	1,586
<b>Total Indirect Defense Purchases</b>	<b>127,614</b>	<b>127,650</b>	<b>128,228</b>	<b>124,899</b>	<b>126,132</b>	<b>134,502</b>

\* Includes net funds appropriated to revolving and management funds.

Note: Numbers may not add due to rounding

## **SECTION I: SUMMARY TABLES – Industry Expenditures and Employment, Individual States and Entire United States**

The summary tables provide an overview of estimated defense expenditures and employment. The first table presents estimates of total defense purchases from the 50 manufacturing industries leading in defense production in 1999. The estimates shown include both direct and indirect purchases. The second table presents estimates of defense-related employment by major occupational category, while the third table provides more detailed estimates of defense-related employment of engineers and scientists.

The remaining five tables present state-level information:

- The first three state-level tables present estimates of *direct* defense expenditures, first in the aggregate and then for selected budget accounts. The first table shows outlays (for purchases and pay) projected to be made in each state during each year of the forecast period. (The estimates assume that state shares of the underlying components of pay and purchases remain at recent levels.) The next two tables present statewide estimates by budget category; the first shows outlays arising from the procurement and RDT&E accounts, while the second displays outlays resulting from the remaining accounts.
- The last two state-level tables present estimates of *indirect* defense expenditures. The first table shows indirect expenditures arising from purchases made by the Department of Defense; the second shows indirect expenditures arising from the wages and salaries of DoD personnel and from military retirement pay.

**Projected Defense Purchases from  
Fifty Manufacturing Industries Leading in Defense Production in 1999**

Rounded to Millions of 1999 Dollars

<b>Ind #</b>	<b>Supplying Industry</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
235	Aircraft	10,062	10,353	10,659	11,085	11,664	12,308
237	Aircraft ad Missile Parts and Auxiliary Equipment, n.e.c.	10,008	10,301	10,324	10,322	10,468	10,801
21	Guided Missiles and Space Vehicles	8,786	8,466	8,214	8,153	8,194	8,323
238	Shipbuilding and Repairing	8,199	8,069	8,004	8,088	7,910	7,865
220	Radio and TV Broadcasting and Communication Equipment	7,857	7,810	7,669	7,655	7,761	7,995
110	Petroleum Refining, Except Fuel Oil	7,453	7,383	7,289	6,638	5,983	7,425
236	Aircraft and Missile Engines, Propulsion Units and Parts	6,786	6,862	6,734	6,632	6,697	6,877
246	Search and Navigation Equipment	3,490	3,608	3,634	3,649	3,739	3,894
198	Electronic Computers	3,531	3,491	3,448	3,420	3,342	3,449
111	Fuel Oil	3,447	3,402	3,339	2,981	2,637	3,347
222	Semiconductors and Related Devices	3,226	3,373	3,512	3,651	3,821	4,136
22	Ammunition, Except Small Arms	3,252	3,173	3,451	3,604	3,762	3,997
223	Electronic Components, n.e.c.	2,922	2,904	2,929	2,941	2,974	3,103
118	Miscellaneous Plastic Products	1,933	1,949	1,984	1,982	2,020	2,170
133	Steel Mills, Blast Furnaces, and Rolling and Finishing Mills	1,767	1,720	1,716	1,715	1,708	1,744
95	Industrial Inorganic Chemicals	1,571	1,650	1,648	1,613	1,613	1,702
249	Surgical and Medical Instruments	1,479	1,533	1,516	1,397	1,436	1,508
174	Industrial Trucks, Tractors, Trailers, and Stackers	1,363	1,459	1,471	1,459	1,470	1,557
248	Measuring Devices and Environmental Controls	1,273	1,349	1,355	1,343	1,360	1,413
90	Commercial Printing	1,182	1,180	1,180	1,155	1,156	1,227
151	Fabricated Plate Work (Boiler Shops)	1,204	1,151	1,134	1,159	1,117	1,061
142	Other Nonferrous Rolling and Drawing Products, and Nonferrous Wire	1,053	1,051	1,058	1,075	1,109	1,156
23	Tanks and Tank Components	1,033	1,003	1,043	1,116	1,216	1,333
96	Industrial Organic Chemicals	993	986	984	959	962	1,020
59	Apparel	1,014	983	971	704	821	838
234	Motor Vehicle Parts and Accessories	811	905	1,069	1,203	1,315	1,446
25	Small Arms Ammunition	818	881	918	960	1,053	1,156
199	Computer Peripheral Equipment	838	838	834	833	819	848
233	Motor Vehicles and Passenger Car Bodies	809	818	857	930	1,006	1,090
210	Motors and Generators	731	750	759	759	775	804
141	Aluminum Rolling and Drawing Products	724	716	723	732	746	781
163	Pipes, Valves, and Pipe Fittings	635	641	654	654	661	701
102	Plastics Materials and Resins	639	640	644	636	646	685
230	Electrical Machinery, Equipment and Supplies, n.e.c.	614	612	599	596	600	611
78	Paper Mills, Including Building Paper	617	610	604	583	579	612
177	Special Dies, Jigs, Molds, and Cutting Tools	613	576	618	634	653	688
253	Laboratory and Optical Instruments	558	567	576	587	599	617
86	Newspaper Publishing and Printing	585	564	551	526	519	532
197	Industrial and Commercial Machinery, n.e.c.	549	551	573	581	599	634
159	Metal Plating, Polishing, and Coating	541	547	561	572	590	624
153	Screw Machine Products, Bolts and Nuts	532	535	549	560	576	610
158	Hardware, n.e.c.	530	527	529	536	551	577
164	Fabricated Metal Products, n.e.c.	538	522	542	546	550	588
53	Broadwoven Fabric Mills	531	517	512	444	474	506
61	Miscellaneous Fabricated Textile Products	497	494	495	460	455	520
145	Nonferrous Castings and forgings	481	486	489	492	505	527
165	Steam, Gas, and Hydraulic Turbines	419	478	583	675	750	819
81	Paperboard Containers and Boxes	469	466	465	450	448	486
255	Photographic Equipment and Supplies	450	459	465	466	475	500
150	Fabricated Structural Metal Products	445	444	446	453	456	466

**Projected Defense and Defense-Related Civilian Employment by Occupational Category**

Rounded to Thousands of Workers

Occupational Category	1998	1999	2000	2001	2002	2003
Managerial and Administrative	129	126	124	119	119	123
Management Support	156	152	147	142	140	141
Engineers	173	168	163	159	157	157
Scientists	242	238	233	229	228	232
Technicians and Related Support	104	101	99	96	94	96
Marketing and Sales	116	114	113	108	109	113
Administrative Support (including Clerical)	510	495	478	458	452	458
Service	265	260	253	239	241	246
Agriculture, Forestry, Fishing and Related	20	20	19	18	17	19
Precision Production, Craft, and Repair	466	453	441	428	424	427
Operators, Fabricators, and Laborers	415	404	397	373	376	383
<b>Total All Categories:</b>	<b>2,595</b>	<b>2,531</b>	<b>2,466</b>	<b>2,368</b>	<b>2,358</b>	<b>2,395</b>

**Projected Defense and Defense-Related Civilian Employment of Engineers and Scientists**  
 Rounded to Thousands of Workers

Occupational Category	1998	1999	2000	2001	2002	2003
Aeronautical and astronautical engineers	17.3	16.9	16.3	15.9	15.7	15.6
Chemical engineers	2.8	2.7	2.6	2.6	2.5	2.5
Civil engineers, including traffic engineers	21.5	20.9	20.0	19.5	19.1	18.9
Electrical and electronics engineers	66.8	65.1	63.0	61.5	60.8	60.7
Industrial engineers, except safety engineers	11.7	11.5	11.2	11.0	11.0	11.1
Mechanical engineers	33.3	32.3	31.2	30.4	29.9	29.8
Metallurgists and metallurgical, ceramic, and materials engineers	1.3	1.3	1.2	1.2	1.2	1.2
All other engineers	17.8	17.5	17.2	17.0	16.9	17.2
Total Engineers	172.5	168.2	162.8	159.0	157.1	157.1
Architects and surveyors	3.5	3.4	3.3	3.2	3.1	3.1
Life scientists	1.9	1.9	1.8	1.7	1.7	1.7
Computer systems analysts, engineers, and scientists	103.8	103.6	102.3	101.8	102.4	104.6
Mathematicians and other mathematical scientists	3.5	3.3	3.2	3.1	3.1	3.0
Operations research analysts	8.2	7.9	7.6	7.4	7.2	7.2
Chemists	5.2	5.0	4.8	4.7	4.6	4.6
Geologists, geophysicists, and oceanographers	1.1	1.1	1.0	1.0	1.0	1.0
Physicists and astronomers	0.6	0.5	0.5	0.5	0.5	0.5
All other physical scientists	5.6	5.4	5.2	5.0	4.9	4.9
Social scientists	4.3	4.2	4.0	3.9	3.8	3.8
Total Scientists	137.5	136.3	133.7	132.2	132.3	134.3
Total Engineers and Scientists:	<b>310</b>	<b>304</b>	<b>297</b>	<b>291</b>	<b>289</b>	<b>291</b>

*Note: numbers may not add due to rounding*

## Projections of Total Direct Expenditures, by State

Rounded to Millions of 1999 dollars

State	1998	1999	2000	2001	2002	2003
Alabama	5,338	5,259	5,171	5,011	5,024	5,092
Alaska	2,468	2,424	2,412	2,237	2,312	2,400
Arizona	4,539	4,541	4,546	4,574	4,632	4,746
Arkansas	1,310	1,294	1,282	1,245	1,248	1,272
California	42,528	42,265	41,964	41,696	41,759	43,353
Colorado	6,742	6,625	6,434	6,309	6,281	6,357
Connecticut	4,175	4,079	4,104	4,127	4,209	4,369
Delaware	827	837	828	805	809	828
District of Columbia	3,397	3,344	3,298	3,190	3,164	3,298
Florida	14,939	14,817	14,670	14,532	14,578	14,834
Georgia	10,494	10,313	10,123	9,943	9,918	10,044
Hawaii	3,629	3,572	3,509	3,452	3,432	3,474
Idaho	536	527	518	511	502	506
Illinois	4,228	4,161	4,126	4,019	4,011	4,123
Indiana	2,838	2,809	2,811	2,793	2,786	2,906
Iowa	839	828	820	815	817	834
Kansas	2,199	2,164	2,138	2,111	2,078	2,117
Kentucky	2,867	2,825	2,780	2,730	2,701	2,743
Louisiana	4,193	4,128	4,080	4,002	3,900	4,102
Maine	2,585	2,527	2,520	2,532	2,526	2,547
Maryland	9,448	9,326	9,211	9,086	9,083	9,303
Massachusetts	7,794	7,757	7,653	7,604	7,673	7,903
Michigan	5,123	5,171	5,369	5,556	5,758	6,079
Minnesota	2,516	2,522	2,561	2,594	2,633	2,757
Mississippi	4,499	4,417	4,375	4,325	4,321	4,399
Missouri	6,474	6,461	6,440	6,473	6,565	6,767
Montana	436	431	426	420	415	425
Nebraska	1,176	1,163	1,145	1,134	1,113	1,145
Nevada	1,169	1,155	1,143	1,136	1,131	1,137
New Hampshire	793	784	775	769	768	785
New Jersey	6,011	5,917	5,847	5,635	5,724	5,942
New Mexico	2,353	2,320	2,277	2,241	2,212	2,253
New York	7,984	7,924	7,871	7,728	7,781	8,026
North Carolina	6,413	6,323	6,226	6,125	6,112	6,165
North Dakota	706	697	689	685	689	698
Ohio	6,662	6,544	6,536	6,479	6,494	6,722
Oklahoma	3,430	3,388	3,342	3,305	3,285	3,345
Oregon	763	752	742	736	732	737
Pennsylvania	6,640	6,521	6,448	6,349	6,283	6,459
Rhode Island	1,655	1,668	1,645	1,611	1,609	1,650
South Carolina	4,082	4,026	3,980	3,816	3,845	3,912
South Dakota	755	758	847	854	815	852
Tennessee	3,172	3,118	3,089	2,862	2,923	2,974
Texas	20,515	20,324	20,130	19,767	19,666	20,462
Utah	2,002	1,956	1,919	1,887	1,872	1,926
Vermont	192	192	192	192	194	198
Virginia	24,883	24,456	24,092	23,421	23,427	23,799
Washington	7,221	7,128	7,018	6,901	6,851	7,044
West Virginia	433	424	417	409	409	414
Wisconsin	1,078	1,018	1,045	1,030	1,016	1,054
Wyoming	351	348	343	338	332	345
<b>U.S. Total</b>	<b>267,400</b>	<b>264,326</b>	<b>261,929</b>	<b>258,099</b>	<b>258,416</b>	<b>265,623</b>

## Projections of Total Direct Procurement and RDT&E Expenditures, by State

Rounded to Millions of 1999 dollars

State	1998	1999	2000	2001	2002	2003
Alabama	1,269	1,251	1,209	1,179	1,172	1,182
Alaska	350	341	352	371	396	422
Arizona	1,520	1,563	1,597	1,644	1,721	1,812
Arkansas	107	106	106	106	109	113
California	17,479	17,594	17,591	17,771	18,263	18,961
Colorado	3,413	3,336	3,190	3,095	3,093	3,134
Connecticut	2,320	2,362	2,404	2,470	2,560	2,678
Delaware	290	307	304	296	300	312
District of Columbia	241	233	224	217	215	215
Florida	4,295	4,308	4,264	4,264	4,364	4,521
Georgia	3,939	3,884	3,761	3,695	3,720	3,793
Hawaii	107	101	98	96	96	97
Idaho	18	18	17	17	17	17
Illinois	604	617	622	628	647	672
Indiana	618	634	656	680	713	749
Iowa	347	352	347	344	350	362
Kansas	137	137	138	141	145	151
Kentucky	68	65	65	66	67	69
Louisiana	1,283	1,261	1,263	1,289	1,282	1,296
Maine	1,753	1,710	1,713	1,757	1,744	1,759
Maryland	2,433	2,428	2,396	2,387	2,428	2,500
Massachusetts	5,346	5,355	5,270	5,247	5,341	5,504
Michigan	2,714	2,847	3,056	3,269	3,512	3,763
Minnesota	1,281	1,326	1,360	1,401	1,467	1,545
Mississippi	1,892	1,849	1,851	1,898	1,895	1,919
Missouri	3,603	3,646	3,662	3,714	3,834	3,994
Montana	7	7	7	6	6	7
Nebraska	37	35	35	34	35	36
Nevada	36	36	35	34	34	34
New Hampshire	251	251	246	242	245	251
New Jersey	2,059	2,033	2,010	2,017	2,076	2,162
New Mexico	406	398	382	370	365	367
New York	3,727	3,779	3,761	3,771	3,870	4,018
North Carolina	404	400	389	380	380	387
North Dakota	73	71	73	76	81	86
Ohio	2,068	2,081	2,111	2,164	2,260	2,380
Oklahoma	200	198	199	202	207	214
Oregon	73	72	71	70	69	69
Pennsylvania	1,926	1,952	1,943	1,949	1,997	2,067
Rhode Island	761	794	788	777	791	823
South Carolina	295	296	299	305	314	326
South Dakota	19	18	18	18	18	19
Tennessee	425	417	399	386	381	382
Texas	4,936	4,940	4,885	4,890	4,999	5,167
Utah	383	369	358	352	356	366
Vermont	60	62	62	64	66	69
Virginia	3,617	3,513	3,435	3,407	3,404	3,451
Washington	1,310	1,291	1,262	1,250	1,270	1,306
West Virginia	21	20	20	19	19	20
Wisconsin	101	102	104	108	112	117
Wyoming	5	5	4	4	4	4
<b>U.S. Total</b>	<b>80,624</b>	<b>80,772</b>	<b>80,411</b>	<b>80,937</b>	<b>82,810</b>	<b>85,667</b>

## Projections of Total Direct Expenditures Excluding Procurement and RDT&E, by State

Rounded to Millions of 1999 dollars

State	1998	1999	2000	2001	2002	2003
Alabama	4,070	4,008	3,962	3,832	3,853	3,910
Alaska	2,118	2,083	2,061	1,866	1,916	1,977
Arizona	3,019	2,977	2,948	2,930	2,910	2,934
Arkansas	1,203	1,188	1,177	1,139	1,139	1,160
California	25,049	24,671	24,373	23,925	23,496	24,392
Colorado	3,329	3,289	3,244	3,214	3,187	3,223
Connecticut	1,855	1,717	1,700	1,657	1,650	1,691
Delaware	537	529	525	509	509	517
District of Columbia	3,156	3,111	3,074	2,972	2,949	3,083
Florida	10,644	10,509	10,407	10,267	10,213	10,314
Georgia	6,555	6,430	6,362	6,247	6,198	6,252
Hawaii	3,522	3,471	3,411	3,355	3,336	3,377
Idaho	518	510	501	494	485	489
Illinois	3,623	3,544	3,504	3,391	3,365	3,450
Indiana	2,221	2,175	2,155	2,112	2,073	2,156
Iowa	492	477	473	471	466	472
Kansas	2,062	2,027	2,000	1,971	1,932	1,966
Kentucky	2,800	2,759	2,714	2,664	2,634	2,675
Louisiana	2,911	2,867	2,817	2,712	2,619	2,807
Maine	832	817	807	775	782	788
Maryland	7,015	6,898	6,815	6,699	6,655	6,802
Massachusetts	2,447	2,402	2,383	2,357	2,332	2,398
Michigan	2,409	2,324	2,312	2,287	2,246	2,316
Minnesota	1,235	1,196	1,201	1,193	1,167	1,212
Mississippi	2,607	2,568	2,524	2,427	2,426	2,480
Missouri	2,872	2,815	2,779	2,758	2,731	2,774
Montana	428	425	420	413	409	419
Nebraska	1,139	1,128	1,111	1,100	1,078	1,109
Nevada	1,133	1,119	1,108	1,102	1,097	1,102
New Hampshire	542	533	529	527	523	534
New Jersey	3,952	3,883	3,836	3,618	3,648	3,780
New Mexico	1,948	1,922	1,895	1,871	1,847	1,887
New York	4,257	4,145	4,110	3,957	3,911	4,008
North Carolina	6,010	5,923	5,836	5,745	5,732	5,778
North Dakota	633	626	617	609	608	612
Ohio	4,594	4,462	4,426	4,315	4,234	4,341
Oklahoma	3,230	3,190	3,144	3,104	3,078	3,130
Oregon	690	680	671	666	663	667
Pennsylvania	4,714	4,569	4,505	4,400	4,286	4,391
Rhode Island	894	874	857	834	818	827
South Carolina	3,787	3,730	3,681	3,512	3,532	3,587
South Dakota	736	740	829	836	797	833
Tennessee	2,748	2,702	2,690	2,476	2,542	2,592
Texas	15,579	15,384	15,245	14,877	14,667	15,296
Utah	1,619	1,587	1,561	1,536	1,516	1,560
Vermont	132	130	129	129	128	129
Virginia	21,265	20,943	20,657	20,014	20,023	20,348
Washington	5,911	5,837	5,756	5,650	5,581	5,738
West Virginia	412	404	397	389	390	394
Wisconsin	978	916	941	923	904	937
Wyoming	346	343	339	333	327	340
<b>U.S. Total</b>	<b>186,776</b>	<b>183,554</b>	<b>181,519</b>	<b>177,162</b>	<b>175,606</b>	<b>179,956</b>

## Projections of Indirect Defense Purchases Resulting from Direct Purchases, by State

Rounded to Millions of 1999 dollars

State	1998	1999	2000	2001	2002	2003
Alabama	2,300	2,301	2,302	2,244	2,264	2,382
Alaska	500	495	492	471	462	507
Arizona	1,939	1,963	1,983	1,965	2,004	2,117
Arkansas	851	852	859	836	843	900
California	15,786	15,814	15,824	15,442	15,581	16,514
Colorado	1,947	1,944	1,942	1,892	1,900	2,018
Connecticut	4,277	4,083	3,866	3,662	3,770	3,940
Delaware	309	309	311	301	303	326
District of Columbia	700	691	683	666	676	712
Florida	4,654	4,686	4,729	4,629	4,710	5,005
Georgia	3,102	3,109	3,117	3,029	3,076	3,260
Hawaii	505	502	503	490	497	527
Idaho	466	471	476	468	472	502
Illinois	4,576	4,543	4,546	4,404	4,436	4,718
Indiana	2,622	2,615	2,631	2,581	2,603	2,749
Iowa	754	750	755	736	745	793
Kansas	1,304	1,309	1,312	1,265	1,264	1,356
Kentucky	1,607	1,608	1,619	1,586	1,593	1,703
Louisiana	2,300	2,293	2,282	2,130	2,042	2,318
Maine	355	359	359	344	343	360
Maryland	3,187	3,186	3,191	3,125	3,162	3,337
Massachusetts	4,445	4,453	4,455	4,369	4,440	4,669
Michigan	3,043	3,055	3,090	3,033	3,070	3,247
Minnesota	1,990	1,990	2,000	1,951	1,968	2,090
Mississippi	927	930	932	895	890	956
Missouri	2,842	2,844	2,851	2,780	2,809	2,939
Montana	223	222	222	213	213	231
Nebraska	599	595	598	583	588	626
Nevada	414	414	417	407	413	438
New Hampshire	474	475	478	472	481	508
New Jersey	3,683	3,677	3,706	3,632	3,702	3,965
New Mexico	930	940	946	922	922	994
New York	5,933	5,915	5,936	5,782	5,862	6,195
North Carolina	2,700	2,701	2,723	2,641	2,697	2,862
North Dakota	216	215	215	206	205	222
Ohio	5,059	5,045	5,067	4,960	4,999	5,290
Oklahoma	1,857	1,852	1,856	1,775	1,749	1,930
Oregon	1,047	1,061	1,077	1,064	1,087	1,160
Pennsylvania	4,832	4,809	4,826	4,699	4,735	5,023
Rhode Island	443	445	452	448	459	489
South Carolina	1,500	1,496	1,503	1,461	1,489	1,579
South Dakota	1,826	2,111	2,435	2,499	2,356	2,567
Tennessee	1,909	1,914	1,923	1,864	1,888	1,991
Texas	11,609	11,635	11,663	11,220	11,141	12,202
Utah	1,052	1,055	1,055	1,032	1,044	1,106
Vermont	251	256	262	262	268	285
Virginia	6,692	6,710	6,745	6,495	6,647	7,011
Washington	2,928	2,976	2,989	2,922	2,941	3,097
West Virginia	594	591	593	579	580	617
Wisconsin	1,811	1,807	1,819	1,777	1,796	1,899
Wyoming	276	274	273	257	248	280
<b>U.S. Total</b>	<b>126,147</b>	<b>126,347</b>	<b>126,888</b>	<b>123,464</b>	<b>124,433</b>	<b>132,512</b>

**Projections of Indirect Defense Purchases Resulting from Direct Pay, by State**

Rounded to Millions of 1999 dollars

<b>State</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Alabama	1,208	1,175	1,152	1,148	1,141	1,140
Alaska	389	378	371	370	368	368
Arizona	1,252	1,223	1,204	1,203	1,198	1,199
Arkansas	508	493	482	479	474	472
California	7,935	7,730	7,577	7,556	7,509	7,503
Colorado	1,323	1,289	1,264	1,259	1,250	1,248
Connecticut	611	594	580	576	571	568
Delaware	214	208	204	204	203	202
District of Columbia	611	593	581	578	574	572
Florida	4,523	4,420	4,345	4,343	4,327	4,333
Georgia	2,474	2,415	2,374	2,372	2,362	2,364
Hawaii	1,078	1,051	1,033	1,030	1,025	1,025
Idaho	254	248	244	244	244	244
Illinois	2,166	2,106	2,057	2,048	2,032	2,026
Indiana	1,084	1,061	1,043	1,043	1,041	1,043
Iowa	425	413	402	399	395	393
Kansas	691	672	658	655	651	650
Kentucky	1,047	1,020	1,001	998	993	993
Louisiana	958	933	914	912	906	904
Maine	344	336	330	330	329	330
Maryland	1,840	1,793	1,761	1,758	1,750	1,751
Massachusetts	1,101	1,069	1,043	1,036	1,025	1,019
Michigan	1,346	1,311	1,281	1,274	1,260	1,253
Minnesota	794	778	766	768	768	772
Mississippi	693	673	659	656	651	649
Missouri	1,268	1,235	1,210	1,207	1,200	1,200
Montana	215	209	205	204	202	201
Nebraska	467	455	446	444	442	442
Nevada	770	759	747	746	743	745
New Hampshire	238	232	227	226	225	224
New Jersey	1,482	1,441	1,407	1,399	1,388	1,384
New Mexico	631	615	604	602	600	601
New York	2,580	2,499	2,428	2,403	2,370	2,349
North Carolina	2,392	2,334	2,295	2,294	2,288	2,293
North Dakota	249	242	238	237	236	236
Ohio	2,177	2,117	2,070	2,059	2,042	2,036
Oklahoma	1,145	1,114	1,093	1,090	1,083	1,082
Oregon	574	559	548	547	544	544
Pennsylvania	2,212	2,155	2,108	2,100	2,085	2,081
Rhode Island	277	270	265	264	263	263
South Carolina	1,240	1,209	1,187	1,186	1,181	1,182
South Dakota	183	178	175	174	173	173
Tennessee	1,004	981	962	961	955	956
Texas	5,265	5,132	5,038	5,027	5,000	5,001
Utah	574	559	548	547	544	543
Vermont	115	113	111	110	110	110
Virginia	5,055	4,924	4,839	4,833	4,812	4,816
Washington	2,029	1,979	1,944	1,941	1,931	1,932
West Virginia	275	267	261	259	257	256
Wisconsin	784	767	754	754	751	751
Wyoming	151	147	145	144	143	143
<b>U.S. Total</b>	<b>68,223</b>	<b>66,476</b>	<b>65,176</b>	<b>65,000</b>	<b>64,612</b>	<b>64,566</b>

## **SECTION II: PROJECTIONS FOR SELECTED INDUSTRIES**

The tables in this section show projected defense and defense-related purchases from the 50 manufacturing industries expected to lead in defense production in calendar year 1999. A separate table is provided for each industry.

The upper portion of each table provides projections of direct and indirect defense purchases for calendar years 1998 through 2003. The lower portion of the table shows the indirect defense purchases estimated to result from DoD purchases from each of eleven industrial groupings.

The model produces projections for 320 industries; estimates for 50 of these industries are presented in this report. Those industries are grouped into 85 sectors in the state-level tables presented in Section III. Thus, industrial sector 44, "Aerospace," appearing in the state-level tables, includes four industries: industry 235, "Aircraft"; industry 236, "Aircraft and Missile Engines, Propulsion Units, and Parts"; industry 237, "Aircraft and Missile Parts and Auxiliary Equipment, n.e.c."; and industry 21, "Guided Missiles and Space Vehicles." A crosswalk between the industries cited in Section II and the industrial sectors addressed in Section III is provided in the appendix. (The appendix also contains a crosswalk to four-digit SIC codes.)

In addition, tables showing sources of defense purchases are provided for the 10 industries leading in defense production in 1999.

**Projected Defense Purchases of  
Aircraft**

Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	10,003	10,291	10,598	11,023	11,601	12,243
Indirect Purchases	60	62	62	62	63	65
<b>Total:</b>	<b>10,062</b>	<b>10,353</b>	<b>10,659</b>	<b>11,035</b>	<b>11,664</b>	<b>12,308</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	1	1	1	1	1	2
Aircraft Parts	35	36	36	36	37	38
Ammunition	0	0	0	0	0	0
Communication Equipment	0	0	0	0	0	0
Missiles	5	5	5	5	5	5
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	0	0	0	0	0	0
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	18	19	19	19	20	20
<b>Total:</b>	<b>60</b>	<b>62</b>	<b>62</b>	<b>62</b>	<b>63</b>	<b>65</b>

**Sources of Projected Defense Purchases**  
**Aircraft**

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
Military Personnel	0	0	0	0	0	0
Operations & Maintenance *	873	872	868	885	882	891
Aircraft	6,480	6,827	7,278	7,788	8,362	8,949
Missiles	55	48	48	53	56	58
Weapons and Tracked Vehicles	0	0	0	0	0	0
Shipbuilding	0	0	0	0	0	0
Ammunition	0	0	0	0	0	0
Other	93	96	98	101	104	106
Total Procurement	6,629	6,971	7,424	7,942	8,522	9,114
RDT&E	2,553	2,503	2,361	2,252	2,254	2,297
Military Construction	7	6	5	5	5	4
Family Housing	1	1	1	1	1	1
<b>Total :</b>	<b>10,062</b>	<b>10,353</b>	<b>10,659</b>	<b>11,085</b>	<b>11,664</b>	<b>12,308</b>

Direct plus indirect purchases.

\* Includes net funds appropriated to revolving and management funds.

Note: Numbers may not add due to rounding

**Projected Defense Purchases of  
Aircraft and Missile Parts and Auxiliary Equipment, n.e.c.**

Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	7,816	8,036	8,109	8,200	8,448	8,847
Indirect Purchases	2,271	2,287	2,238	2,172	2,202	2,260
<b>Total :</b>	<b>10,087</b>	<b>10,324</b>	<b>10,347</b>	<b>10,372</b>	<b>10,650</b>	<b>11,107</b>
<b>INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR</b>						
Aircraft Engines	354	356	348	344	347	359
Ammunition	1	1	1	1	1	1
Communication Equipment	1	2	2	2	2	2
Missiles	1,213	1,188	1,169	1,166	1,180	1,207
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	1	1	1	1	1	1
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	701	740	717	657	670	690
<b>Total :</b>	<b>2,271</b>	<b>2,287</b>	<b>2,238</b>	<b>2,172</b>	<b>2,202</b>	<b>2,260</b>

**Sources of Projected Defense Purchases**  
**Aircraft and Missile Parts and Auxiliary Equipment, n.e.c.**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>Military Personnel</b>	18	17	18	12	15	16
<b>Operations &amp; Maintenance *</b>	2,176	2,166	2,192	2,245	2,228	2,290
<b>Aircraft</b>	3,462	3,724	3,822	3,844	4,070	4,344
<b>Missiles</b>	284	257	269	315	359	394
<b>Weapons and Tracked Vehicles</b>	25	23	24	24	26	27
<b>Shipbuilding</b>	18	15	15	13	13	14
<b>Ammunition</b>	0	0	0	0	0	0
<b>Other</b>	1,297	1,373	1,398	1,406	1,448	1,521
<b>Total Procurement</b>	5,086	5,393	5,528	5,602	5,916	6,301
<b>RDT&amp;E</b>	2,700	2,649	2,519	2,422	2,399	2,412
<b>Military Construction</b>	80	73	66	67	68	65
<b>Family Housing</b>	27	25	23	24	24	24
<b>Total :</b>	<b>10,087</b>	<b>10,324</b>	<b>10,347</b>	<b>10,372</b>	<b>10,650</b>	<b>11,107</b>

Direct plus indirect purchases.

\* Includes net funds appropriated to revolving and management funds.

*Note: Numbers may not add due to rounding*

**Projected Defense Purchases of  
Guided Missiles and Space Vehicles**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
Direct Purchases	8,515	8,203	7,958	7,899	7,939	8,064
271	263	257	254	255	259	259
Total :	8,786	8,466	8,214	8,153	8,194	8,323

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	1	1	1	1	1	1
13	14	14	14	14	14	14
Aircraft Parts	0	0	0	0	0	0
Ammunition	0	0	0	0	0	0
Communication Equipment	255	247	240	238	238	242
Missiles	0	0	0	0	0	0
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	0	0	0	0	0	0
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	2	2	2	2	2	2
Total :	271	263	257	254	255	259

**Sources of Projected Defense Purchases**  
**Guided Missiles and Space Vehicles**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>Military Personnel</b>	1	1	1	1	1	1
<b>Operations &amp; Maintenance *</b>	623	559	606	618	603	608
Aircraft	65	61	62	66	73	80
Missiles	1,276	1,150	1,153	1,279	1,397	1,493
Weapons and Tracked Vehicles	0	0	0	0	0	0
Shipbuilding	27	23	22	19	17	19
Ammunition	0	0	0	0	0	0
Other	1,377	1,414	1,400	1,402	1,423	1,476
<b>Total Procurement</b>	2,746	2,647	2,637	2,766	2,911	3,067
RDT&E	5,413	5,256	4,967	4,766	4,676	4,644
30 Military Construction	2	1	1	1	1	1
Family Housing	2	1	1	1	1	1
<b>Total:</b>	<b>8,786</b>	<b>8,466</b>	<b>8,214</b>	<b>8,153</b>	<b>8,194</b>	<b>8,323</b>

Direct plus indirect purchases.

\* Includes net funds appropriated to revolving and management funds.

Note: Numbers may not add due to rounding

**Projected Defense Purchases of  
Shipbuilding and Repairing**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
Direct Purchases						
8,336	8,133	8,090	8,256	8,180	8,228	
42	42	41	37	39	39	
Indirect Purchases						
Total :	<b>8,379</b>	<b>8,174</b>	<b>8,131</b>	<b>8,293</b>	<b>8,219</b>	<b>8,267</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	0	0	0	0	0	0
Aircraft Parts	0	0	0	0	0	0
Ammunition	0	0	0	0	0	0
Communication Equipment	0	0	0	0	0	0
Missiles	0	0	0	0	0	0
Motor Vehicles	0	0	0	0	0	0
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	42	42	41	37	38	39
Total :	<b>42</b>	<b>42</b>	<b>41</b>	<b>37</b>	<b>39</b>	<b>39</b>

**Sources of Projected Defense Purchases**  
**Shipbuilding and Repairing**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
Military Personnel	10	10	10	6	8	8
Operations & Maintenance *	857	848	814	807	801	800
Aircraft	176	101	123	201	304	397
Missiles	1	1	1	1	1	1
Weapons and Tracked Vehicles	4	4	4	4	4	4
Shipbuilding	7,116	6,999	6,980	7,083	6,908	6,858
Ammunition	0	0	0	0	0	0
Other	2	2	2	3	3	4
Total Procurement	7,299	7,107	7,110	7,292	7,221	7,264
RDT&E	191	189	179	170	171	176
Military Construction	8	7	7	7	7	8
Family Housing	14	13	12	12	12	11
<b>Total :</b>	<b>8,379</b>	<b>8,174</b>	<b>8,131</b>	<b>8,293</b>	<b>8,219</b>	<b>8,267</b>

Direct plus indirect purchases.

\* Includes net funds appropriated to revolving and management funds.

*Note: Numbers may not add due to rounding*

**Projected Defense Purchases of  
Radio and TV Broadcasting and Communication Equipment**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	6,988	6,975	6,850	6,809	6,859	7,026
Indirect Purchases	883	872	856	856	902	969
<b>Total :</b>	<b>7,871</b>	<b>7,846</b>	<b>7,707</b>	<b>7,665</b>	<b>7,761</b>	<b>7,995</b>
<b>INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR</b>						
Aircraft Engines	0	0	0	0	0	0
Aircraft Parts	2	2	3	3	3	3
Ammunition	0	0	0	0	0	0
Communication Equipment	270	229	213	239	285	334
Missiles	511	503	497	497	505	518
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	15	15	15	15	15	15
Tanks	0	0	0	0	0	0
Other Electronic Equipment	1	1	1	1	1	1
Other Ordinances	0	0	0	0	0	0
Other	83	121	127	99	93	97
<b>Total :</b>	<b>883</b>	<b>872</b>	<b>856</b>	<b>856</b>	<b>902</b>	<b>969</b>

*Note: numbers may not add due to rounding*

**Sources of Projected Defense Purchases**  
**Radio and TV Broadcasting and Communication Equipment**

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
Military Personnel	1	1	1	1	1	1
Operations & Maintenance *	2,146	2,103	2,125	2,170	2,159	2,199
Aircraft	513	553	573	560	578	613
Missiles	95	87	90	104	118	130
Weapons and Tracked Vehicles	0	0	0	0	0	0
Shipbuilding	12	11	12	12	11	11
Ammunition	0	0	0	0	0	0
Other	2,405	2,459	2,422	2,438	2,537	2,671
Total Procurement	3,024	3,111	3,097	3,114	3,245	3,426
RDT&E	2,675	2,609	2,464	2,362	2,342	2,356
Military Construction	20	18	16	14	11	10
Family Housing	4	4	4	4	4	4
<b>Total :</b>	<b>7,871</b>	<b>7,846</b>	<b>7,707</b>	<b>7,665</b>	<b>7,761</b>	<b>7,995</b>

Direct plus indirect purchases.

\* Includes net funds appropriated to revolving and management funds.

Note: Numbers may not add due to rounding

**Projected Defense Purchases of  
Petroleum Refining, Except Fuel Oil**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	3,172	3,142	3,095	2,831	2,450	3,196
Indirect Purchases	4,281	4,241	4,194	3,807	3,534	4,229
<b>Total :</b>	<b>7,453</b>	<b>7,383</b>	<b>7,289</b>	<b>6,638</b>	<b>5,983</b>	<b>7,425</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	36	36	35	34	34	35
Aircraft Parts	48	50	50	50	51	53
Ammunition	47	47	51	53	56	60
Communication Equipment	65	66	66	67	69	72
Missiles	27	27	26	26	27	28
Motor Vehicles	15	16	18	20	22	24
Shipbuilding	67	65	65	65	64	63
Tanks	5	6	6	7	8	8
Other Electronic Equipment	6	6	6	6	6	6
Other Ordnances	2	2	2	3	3	3
Other	3,963	3,920	3,868	3,475	3,194	3,875
<b>Total :</b>	<b>4,281</b>	<b>4,241</b>	<b>4,194</b>	<b>3,807</b>	<b>3,534</b>	<b>4,229</b>

*Note: numbers may not add due to rounding*

**Sources of Projected Defense Purchases**  
**Petroleum Refining, Except Fuel Oil**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>Military Personnel</b>	769	746	751	470	602	614
<b>Operations &amp; Maintenance *</b>	5,168	5,222	5,212	4,925	4,336	5,755
Aircraft	113	121	128	135	144	155
Missiles	12	11	12	14	17	19
Weapons and Tracked Vehicles	6	6	6	6	6	7
Shipbuilding	52	50	50	50	48	47
Ammunition	3	3	3	2	2	3
Other	361	329	351	373	400	428
<b>Total Procurement</b>	548	520	550	581	617	658
RDT&E	288	284	272	262	259	260
36 Military Construction	659	590	485	381	150	118
Family Housing	21	20	19	19	19	19
<b>Total:</b>	<b>7,453</b>	<b>7,383</b>	<b>7,289</b>	<b>6,638</b>	<b>5,983</b>	<b>7,425</b>

Direct plus indirect purchases.

\* Includes net funds appropriated to revolving and management funds.

Note: Numbers may not add due to rounding

**Projected Defense Purchases of  
Aircraft and Missile Engines, Propulsion Units and Parts**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	3,976	3,954	3,820	3,738	3,734	3,816
Indirect Purchases	2,810	2,908	2,914	2,894	2,963	3,061
<b>Total:</b>	<b>6,786</b>	<b>6,862</b>	<b>6,734</b>	<b>6,632</b>	<b>6,697</b>	<b>6,877</b>
<b>INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR</b>						
Aircraft Engines	747	744	719	705	706	723
Aircraft Parts	67	71	72	74	76	80
Ammunition	3	3	3	3	4	4
Communication Equipment	6	7	7	7	8	8
Missiles	523	516	511	513	522	536
Motor Vehicles	1	1	1	2	2	2
Shipbuilding	2	2	2	2	2	3
Tanks	1	1	1	1	1	1
Other Electronic Equipment	0	0	0	0	0	1
Other Ordinances	0	0	0	0	0	0
Other	1,458	1,563	1,596	1,586	1,643	1,703
<b>Total:</b>	<b>2,810</b>	<b>2,908</b>	<b>2,914</b>	<b>2,894</b>	<b>2,963</b>	<b>3,061</b>

**Sources of Projected Defense Purchases**  
**Aircraft and Missile Engines, Propulsion Units and Parts**  
 Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
Military Personnel	86	85	87	56	73	76
Operations & Maintenance *	543	544	551	561	555	586
Aircraft	1,321	1,522	1,602	1,633	1,655	1,716
Missiles	318	284	295	339	375	400
Weapons and Tracked Vehicles	1	1	1	1	1	1
Shipbuilding	7	5	5	5	4	4
Ammunition	0	0	0	0	0	0
Other	190	199	203	208	216	228
Total Procurement	1,837	2,011	2,106	2,186	2,251	2,350
RDT&E	4,298	4,202	3,971	3,812	3,804	3,852
Military Construction	19	18	16	14	11	10
Family Housing	3	3	3	3	3	3
<b>Total :</b>	<b>6,786</b>	<b>6,862</b>	<b>6,734</b>	<b>6,632</b>	<b>6,697</b>	<b>6,877</b>

Direct plus indirect purchases.

\* Includes net funds appropriated to revolving and management funds.

Note: Numbers may not add due to rounding

**Projected Defense Purchases of  
Search and Navigation Equipment**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
Direct Purchases	3,358	3,469	3,495	3,511	3,600	3,752
Indirect Purchases	132	139	139	138	140	142
<b>Total:</b>	<b>3,490</b>	<b>3,608</b>	<b>3,634</b>	<b>3,649</b>	<b>3,739</b>	<b>3,894</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	7	7	7	7	7	7
Aircraft Parts	1	1	1	1	1	1
Ammunition	0	0	0	0	0	0
Communication Equipment	6	6	6	6	7	7
Missiles	7	7	6	6	6	7
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	8	8	8	8	8	8
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	103	110	110	110	111	113
<b>Total:</b>	<b>132</b>	<b>139</b>	<b>139</b>	<b>138</b>	<b>140</b>	<b>142</b>

**Sources of Projected Defense Purchases**  
**Search and Navigation Equipment**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
Military Personnel	1	1	1	0	1	1
Operations & Maintenance *	803	796	781	786	782	790
Aircraft	557	586	598	598	607	626
Missiles	133	123	123	139	154	165
Weapons and Tracked Vehicles	25	23	23	24	25	27
Shipbuilding	14	13	13	12	12	12
Ammunition	0	0	0	0	0	0
Other	1,145	1,270	1,342	1,368	1,439	1,540
Total Procurement	1,874	2,015	2,099	2,141	2,236	2,370
RDT&E	793	779	737	704	704	717
40 Military Construction	13	12	11	11	11	11
Family Housing	7	6	5	5	5	5
<b>Total :</b>	<b>3,490</b>	<b>3,608</b>	<b>3,634</b>	<b>3,649</b>	<b>3,739</b>	<b>3,894</b>

Direct plus indirect purchases.

\* Includes net funds appropriated to revolving and management funds.

Note: Numbers may not add due to rounding

**Projected Defense Purchases of  
Electronic Computers**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	2,900	2,865	2,831	2,808	2,742	2,830
Indirect Purchases	631	625	617	612	600	618
<b>Total:</b>	<b>3,531</b>	<b>3,491</b>	<b>3,448</b>	<b>3,420</b>	<b>3,342</b>	<b>3,449</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	1	1	1	1	1	1
Aircraft Parts	1	1	1	1	2	2
Ammunition	1	1	1	1	1	1
Communication Equipment	92	93	93	93	94	98
Missiles	4	4	4	4	4	4
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	1	1	1	1	1	1
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	1
Other Ordinances	0	0	0	0	0	0
Other	530	523	515	510	496	511
<b>Total:</b>	<b>631</b>	<b>625</b>	<b>617</b>	<b>612</b>	<b>600</b>	<b>618</b>

**Sources of Projected Defense Purchases**  
**Electronic Computers**

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>Military Personnel</b>	1	1	1	1	1	1
<b>Operations &amp; Maintenance *</b>	2,194	2,168	2,169	2,190	2,150	2,255
Aircraft	79	79	78	77	75	77
Missiles	16	15	17	22	26	30
Weapons and Tracked Vehicles	0	0	0	0	1	1
Shipbuilding	2	2	2	2	2	2
Ammunition	8	8	7	6	6	6
Other	268	282	293	292	301	319
<b>Total Procurement</b>	375	386	397	399	410	436
RDT&E	893	874	827	784	748	727
Military Construction	56	50	42	35	21	19
Family Housing	13	12	11	11	11	11
<b>Total :</b>	<b>3,531</b>	<b>3,491</b>	<b>3,448</b>	<b>3,420</b>	<b>3,342</b>	<b>3,449</b>

Direct plus indirect purchases.

\* Includes net funds appropriated to revolving and management funds.

Note: Numbers may not add due to rounding

**Projected Defense Purchases of**

**Fuel Oil**

Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	2,628	2,603	2,549	2,305	1,958	2,597
Indirect Purchases	818	799	790	675	679	750
<b>Total:</b>	<b>3,447</b>	<b>3,402</b>	<b>3,339</b>	<b>2,981</b>	<b>2,637</b>	<b>3,347</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	11	10	10	10	10	10
Aircraft Parts	12	12	12	12	12	13
Ammunition	11	11	11	12	12	13
Communication Equipment	16	16	16	16	16	17
Missiles	7	6	6	6	6	6
Motor Vehicles	4	5	5	6	6	7
Shipbuilding	18	18	17	17	17	16
Tanks	2	2	2	2	2	2
Other Electronic Equipment	2	1	1	1	1	2
Other Ordinances	1	1	1	1	1	1
Other	736	718	708	593	595	664
<b>Total:</b>	<b>818</b>	<b>799</b>	<b>790</b>	<b>675</b>	<b>679</b>	<b>750</b>

*Note: numbers may not add due to rounding*

**Sources of Projected Defense Purchases****Fuel Oil**

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>Military Personnel</b>	412	397	399	244	316	321
<b>Operations &amp; Maintenance *</b>	2,510	2,536	2,525	2,373	2,071	2,786
Aircraft	31	33	34	35	38	40
Missiles	3	3	3	4	4	5
Weapons and Tracked Vehicles	2	2	2	2	2	2
Shipbuilding	16	16	15	15	14	14
Ammunition	1	1	1	1	1	1
Other	69	50	53	55	58	62
<b>Total Procurement</b>	123	104	108	112	117	123
RDT&E	66	64	61	58	57	57
Military Construction	331	296	242	189	72	56
Family Housing	5	5	5	5	5	5
<b>Total :</b>	<b>3,447</b>	<b>3,402</b>	<b>3,339</b>	<b>2,981</b>	<b>2,637</b>	<b>3,347</b>

Direct plus indirect purchases.

\* Includes net funds appropriated to revolving and management funds.

Note: Numbers may not add due to rounding

**Projected Defense Purchases of  
Semiconductors and Related Devices**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	33	33	32	31	31	33
Indirect Purchases	3,193	3,340	3,480	3,619	3,790	4,104
<b>Total:</b>	<b>3,226</b>	<b>3,373</b>	<b>3,512</b>	<b>3,651</b>	<b>3,821</b>	<b>4,136</b>
<b>INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR</b>						
Aircraft Engines	24	26	26	27	29	31
Aircraft Parts	165	180	190	200	212	229
Ammunition	230	236	269	295	322	357
Communication Equipment	1,126	1,188	1,233	1,291	1,373	1,481
Missiles	149	153	159	166	176	188
Motor Vehicles	24	26	30	35	40	46
Shipbuilding	31	32	34	36	37	39
Tanks	2	2	2	2	3	3
Other Electronic Equipment	61	59	64	67	70	76
Other Ordinances	11	11	12	14	15	17
Other	1,371	1,427	1,461	1,486	1,514	1,637
<b>Total:</b>	<b>3,193</b>	<b>3,340</b>	<b>3,480</b>	<b>3,619</b>	<b>3,790</b>	<b>4,104</b>

**Projected Defense Purchases of  
Ammunition, Except Small Arms**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	3,068	2,994	3,256	3,400	3,548	3,771
185	180	196	205	214	227	
<b>Total :</b>	<b>3,253</b>	<b>3,174</b>	<b>3,452</b>	<b>3,605</b>	<b>3,762</b>	<b>3,998</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Ammunition	184	180	196	204	213	227
Other	0	0	0	0	0	0
<b>Total :</b>	<b>185</b>	<b>180</b>	<b>196</b>	<b>205</b>	<b>214</b>	<b>227</b>

**Projected Defense Purchases of  
Electronic Components, n.e.c.**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	473	434	451	450	441	459
Indirect Purchases	2,448	2,470	2,478	2,491	2,533	2,644
<b>Total:</b>	<b>2,922</b>	<b>2,904</b>	<b>2,929</b>	<b>2,941</b>	<b>2,974</b>	<b>3,103</b>
<b>INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR</b>						
Aircraft Engines	17	17	17	17	17	18
Aircraft Parts	172	179	181	183	186	194
Ammunition	93	91	100	106	112	120
Communication Equipment	1,313	1,330	1,327	1,336	1,369	1,425
Missiles	306	299	295	294	298	305
Motor Vehicles	5	6	7	8	8	9
Shipbuilding	11	11	11	12	11	12
Tanks	0	0	0	1	1	1
Other Electronic Equipment	50	46	48	49	48	50
Other Ordinances	1	1	1	1	1	1
Other	480	489	490	486	481	508
<b>Total:</b>	<b>2,448</b>	<b>2,470</b>	<b>2,478</b>	<b>2,491</b>	<b>2,533</b>	<b>2,644</b>

**Projected Defense Purchases of  
Miscellaneous Plastic Products**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
Direct Purchases	40	38	38	37	37	40
Indirect Purchases	1,894	1,911	1,946	1,945	1,984	2,130
<b>Total :</b>	<b>1,933</b>	<b>1,949</b>	<b>1,984</b>	<b>1,982</b>	<b>2,020</b>	<b>2,170</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	29	29	28	28	28	29
Aircraft Parts	53	55	56	57	59	62
Ammunition	53	54	59	62	67	73
Communication Equipment	168	173	176	181	188	199
Missiles	84	83	82	83	85	87
Motor Vehicles	50	54	61	69	76	84
Shipbuilding	42	42	42	43	42	43
Tanks	7	8	8	9	10	11
Other Electronic Equipment	64	59	62	63	62	65
Other Ordnances	2	2	2	2	2	2
Other	1,343	1,353	1,369	1,348	1,364	1,473
<b>Total :</b>	<b>1,894</b>	<b>1,911</b>	<b>1,946</b>	<b>1,945</b>	<b>1,984</b>	<b>2,130</b>

**Projected Defense Purchases of  
Steel Mills, Blast Furnaces, and Rolling and Finishing Mills**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	19	18	18	18	17	19
Indirect Purchases	1,748	1,702	1,698	1,698	1,692	1,725
<b>Total :</b>	<b>1,767</b>	<b>1,720</b>	<b>1,716</b>	<b>1,715</b>	<b>1,708</b>	<b>1,744</b>
<b>INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR</b>						
Aircraft Engines	51	49	47	45	44	44
Aircraft Parts	66	66	65	64	63	64
Ammunition	124	120	127	130	134	140
Communication Equipment	118	117	115	113	114	116
Missiles	24	23	22	22	22	22
Motor Vehicles	61	66	75	84	91	98
Shipbuilding	483	464	450	447	430	419
Tanks	22	23	23	25	28	30
Other Electronic Equipment	5	5	5	5	5	5
Other Ordinances	10	10	11	11	11	11
Other	782	757	758	752	751	775
<b>Total :</b>	<b>1,748</b>	<b>1,702</b>	<b>1,698</b>	<b>1,698</b>	<b>1,692</b>	<b>1,725</b>

## Projected Defense Purchases of Industrial Inorganic Chemicals

Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	964	1,027	1,029	1,011	1,017	1,070
Indirect Purchases	606	622	619	602	596	632
<b>Total :</b>	<b>1,571</b>	<b>1,650</b>	<b>1,648</b>	<b>1,613</b>	<b>1,613</b>	<b>1,702</b>

INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR

	Production	Inventory	Expenditure	Production	Inventory	Expenditure
Aircraft Engines	4	4	4	4	4	4
Aircraft Parts	7	7	7	7	7	7
Ammunition	6	6	7	7	7	8
Communication Equipment	14	14	14	14	14	15
Missiles	4	4	4	4	4	4
Motor Vehicles	4	4	5	5	6	6
Shipbuilding	20	19	18	18	17	17
Tanks	1	1	1	1	1	1
Other Electronic Equipment	2	2	2	2	2	2
Other Ordinances	0	0	0	0	0	0
Other	543	560	557	540	534	569
<b>Total:</b>	<b>606</b>	<b>622</b>	<b>619</b>	<b>602</b>	<b>596</b>	<b>632</b>

Note: numbers may not add due to rounding

**Projected Defense Purchases of  
Surgical and Medical Instruments**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	1,462	1,516	1,500	1,383	1,424	1,493
23	23	23	23	21	20	23
Indirect Purchases						
Total :	1,485	1,540	1,523	1,404	1,444	1,517

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	0	0	0	0	0	0
Aircraft Parts	0	0	0	0	0	0
Ammunition	0	0	0	0	0	0
Communication Equipment	0	0	0	0	0	0
Missiles	0	0	0	0	0	0
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	0	0	0	0	0	0
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	23	23	23	21	19	23
Total :	23	23	23	21	20	23

**Projected Defense Purchases of  
Industrial Trucks, Tractors, Trailers, and Stackers**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	1,266	1,355	1,367	1,355	1,365	1,446
Indirect Purchases	103	109	110	109	110	116
<b>Total :</b>	<b>1,369</b>	<b>1,464</b>	<b>1,476</b>	<b>1,464</b>	<b>1,475</b>	<b>1,563</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	0	0	0	0	0	0
Aircraft Parts	1	1	1	1	1	1
Ammunition	0	0	1	1	1	1
Communication Equipment	1	1	1	1	1	1
Missiles	0	0	0	0	0	0
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	1	1	1	1	1	1
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	99	105	106	105	106	112
<b>Total :</b>	<b>103</b>	<b>109</b>	<b>110</b>	<b>109</b>	<b>110</b>	<b>116</b>

Note: numbers may not add due to rounding

**Projected Defense Purchases of  
Measuring Devices and Environmental Controls**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
Direct Purchases	894	950	954	943	955	995
Indirect Purchases	380	398	400	400	405	418
<b>Total :</b>	<b>1,273</b>	<b>1,349</b>	<b>1,355</b>	<b>1,343</b>	<b>1,360</b>	<b>1,413</b>

**SUMMARY OF DEFENSE PURCHASES**

	10	10	10	9	9	10
Aircraft Engines	3	3	3	3	3	3
Aircraft Parts	2	2	2	2	2	2
Ammunition	5	5	5	5	5	5
Communication Equipment	2	2	2	2	2	2
Missiles	9	9	9	10	11	12
Motor Vehicles	8	8	8	8	8	8
Shipbuilding	0	0	0	0	0	0
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	340	359	361	359	363	374
<b>Total :</b>	<b>380</b>	<b>398</b>	<b>400</b>	<b>400</b>	<b>405</b>	<b>418</b>

*Note: numbers may not add due to rounding*

**Projected Defense Purchases of  
Commercial Printing**

Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	63	64	62	60	54	59
Indirect Purchases	1,118	1,116	1,118	1,095	1,102	1,168
<b>Total :</b>	<b>1,182</b>	<b>1,180</b>	<b>1,180</b>	<b>1,155</b>	<b>1,156</b>	<b>1,227</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	34	34	33	32	32	33
Aircraft Parts	40	42	42	42	43	44
Ammunition	42	41	45	47	49	53
Communication Equipment	79	80	79	80	82	85
Missiles	35	35	34	34	34	35
Motor Vehicles	11	12	13	15	17	18
Shipbuilding	29	29	29	29	28	28
Tanks	3	3	3	4	4	5
Other Electronic Equipment	3	3	3	3	3	3
Other Ordinances	2	2	2	2	2	2
Other	840	837	835	807	808	862
<b>Total :</b>	<b>1,118</b>	<b>1,116</b>	<b>1,118</b>	<b>1,095</b>	<b>1,102</b>	<b>1,168</b>

**Projected Defense Purchases of  
Fabricated Plate Work (Boiler Shops)**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	1,020	983	956	976	938	880
Indirect Purchases	186	169	180	184	181	182
<b>Total :</b>	<b>1,206</b>	<b>1,152</b>	<b>1,136</b>	<b>1,160</b>	<b>1,119</b>	<b>1,063</b>
<b>INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR</b>						
Aircraft Engines	1	1	1	1	1	1
Aircraft Parts	1	1	1	1	1	1
Ammunition	1	1	1	1	1	1
Communication Equipment	1	1	1	1	1	1
Missiles	1	1	1	1	1	1
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	42	41	41	42	41	41
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	139	123	133	137	134	135
<b>Total :</b>	<b>186</b>	<b>169</b>	<b>180</b>	<b>184</b>	<b>181</b>	<b>182</b>

**Projected Defense Purchases of  
Other Nonferrous Rolling and Drawing Products, and Nonferrous Wire**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	130	124	122	127	133	133
Indirect Purchases	923	927	936	947	975	1,023
<b>Total :</b>	<b>1,053</b>	<b>1,051</b>	<b>1,058</b>	<b>1,075</b>	<b>1,109</b>	<b>1,156</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	160	159	153	150	150	154
Aircraft Parts	60	62	62	62	63	66
Ammunition	12	12	13	14	15	16
Communication Equipment	74	76	76	77	80	84
Missiles	30	29	29	30	30	32
Motor Vehicles	3	3	4	4	4	5
Shipbuilding	36	35	35	35	34	34
Tanks	30	31	32	36	40	45
Other Electronic Equipment	9	9	9	9	9	9
Other Ordinances	1	1	1	1	1	1
Other	510	512	522	529	548	578
<b>Total :</b>	<b>923</b>	<b>927</b>	<b>936</b>	<b>947</b>	<b>975</b>	<b>1,023</b>

**Projected Defense Purchases of  
Tanks and Tank Components**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	1,027	997	1,037	1,109	1,208	1,324
Indirect Purchases	6	6	6	7	8	9
<b>Total:</b>	<b>1,033</b>	<b>1,003</b>	<b>1,043</b>	<b>1,116</b>	<b>1,216</b>	<b>1,333</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Tanks	6	6	6	7	8	9
Other	0	0	0	0	0	0
<b>Total:</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>

**Projected Defense Purchases of  
Industrial Organic Chemicals**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	4	4	4	4	4	4
Indirect Purchases	988	982	979	955	958	1,015
Total:	993	986	984	959	962	1,020

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	19	19	18	18	18	18
Aircraft Parts	35	36	36	36	36	37
Ammunition	23	23	24	26	27	29
Communication Equipment	56	57	58	59	61	65
Missiles	21	21	20	20	21	21
Motor Vehicles	16	17	19	21	22	24
Shipbuilding	36	35	34	34	33	32
Tanks	5	5	5	6	6	7
Other Electronic Equipment	12	11	12	12	12	12
Other Ordinances	1	1	1	1	1	1
Other	765	757	752	723	720	768
Total:	988	982	979	955	958	1,015

**Projected Defense Purchases of  
Apparel**

Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	840	814	803	570	673	686
Indirect Purchases	174	169	168	134	148	153
<b>Total :</b>	<b>1,014</b>	<b>983</b>	<b>971</b>	<b>704</b>	<b>821</b>	<b>838</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	1	1	1	1	1	1
Aircraft Parts	2	2	2	2	2	2
Ammunition	11	11	11	12	12	13
Communication Equipment	5	5	5	5	5	5
Missiles	1	1	1	1	1	1
Motor Vehicles	1	1	1	1	1	1
Shipbuilding	1	1	1	1	1	1
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	152	148	145	111	125	128
<b>Total :</b>	<b>174</b>	<b>169</b>	<b>168</b>	<b>134</b>	<b>148</b>	<b>153</b>

**Projected Defense Purchases of  
Motor Vehicle Parts and Accessories**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	367	453	593	708	788	879
Indirect Purchases	444	452	476	495	526	567
<b>Total :</b>	<b>811</b>	<b>905</b>	<b>1,069</b>	<b>1,203</b>	<b>1,315</b>	<b>1,446</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	3	3	3	3	3	3
Aircraft Parts	4	4	4	4	4	4
Ammunition	4	4	4	4	5	5
Communication Equipment	7	7	7	7	7	7
Missiles	3	3	3	3	3	3
Motor Vehicles	284	295	320	353	383	417
Shipbuilding	7	7	7	7	7	7
Tanks	0	1	1	1	1	1
Other Electronic Equipment	1	1	1	1	1	1
Other Ordinances	0	0	0	0	0	0
Other	131	129	127	113	113	119
<b>Total :</b>	<b>444</b>	<b>452</b>	<b>476</b>	<b>495</b>	<b>526</b>	<b>567</b>

**Projected Defense Purchases of  
Small Arms Ammunition**

Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
Direct Purchases	814	878	914	956	1,049	1,152
Indirect Purchases	4	4	4	4	4	5
<b>Total:</b>	<b>818</b>	<b>881</b>	<b>918</b>	<b>960</b>	<b>1,053</b>	<b>1,156</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	0	0	0	0	0	0
Aircraft Parts	0	0	0	0	0	0
Ammunition	2	3	3	3	3	3
Communication Equipment	0	0	0	0	0	0
Missiles	0	0	0	0	0	0
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	0	0	0	0	0	0
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	1	1	1	1	1	1
<b>Total:</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>5</b>

**Projected Defense Purchases of  
Computer Peripheral Equipment**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
Direct Purchases	348	352	354	358	355	368
Indirect Purchases	491	486	479	475	465	480
<b>Total:</b>	<b>838</b>	<b>838</b>	<b>834</b>	<b>833</b>	<b>819</b>	<b>848</b>

**SUMMARY OF DEFENSE PURCHASES**

	1998	1999	2000	2001	2002	2003
Aircraft Engines	4	4	4	4	4	4
Aircraft Parts	4	5	5	5	5	5
Ammunition	1	1	1	1	1	1
Communication Equipment	6	6	5	5	5	5
Missiles	2	2	2	2	2	2
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	1	1	1	1	1	1
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	473	467	461	456	446	461
<b>Total:</b>	<b>491</b>	<b>486</b>	<b>479</b>	<b>475</b>	<b>465</b>	<b>480</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

	1998	1999	2000	2001	2002	2003
Aircraft Engines	4	4	4	4	4	4
Aircraft Parts	4	5	5	5	5	5
Ammunition	1	1	1	1	1	1
Communication Equipment	6	6	5	5	5	5
Missiles	2	2	2	2	2	2
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	1	1	1	1	1	1
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	473	467	461	456	446	461
<b>Total:</b>	<b>491</b>	<b>486</b>	<b>479</b>	<b>475</b>	<b>465</b>	<b>480</b>

**Projected Defense Purchases of  
Motor Vehicles and Passenger Car Bodies**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	1,287	1,254	1,299	1,383	1,483	1,602
10	23	26	29	31	33	
<b>Total :</b>	<b>1,298</b>	<b>1,277</b>	<b>1,324</b>	<b>1,412</b>	<b>1,514</b>	<b>1,635</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	0	0	0	0	0	0
Aircraft Parts	0	0	0	0	0	0
Ammunition	0	0	0	0	0	0
Communication Equipment	0	0	0	0	0	0
Missiles	0	0	0	0	0	0
Shipbuilding	0	0	0	0	0	0
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	10	23	26	28	31	33
<b>Total :</b>	<b>10</b>	<b>23</b>	<b>26</b>	<b>29</b>	<b>31</b>	<b>33</b>

**Projected Defense Purchases of  
Motors and Generators**

Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	474	497	496	493	506	523
Indirect Purchases	257	253	263	266	269	281
<b>Total:</b>	<b>731</b>	<b>750</b>	<b>759</b>	<b>759</b>	<b>775</b>	<b>804</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	1	1	1	1	1	1
Aircraft Parts	5	5	5	5	5	6
Ammunition	1	1	1	1	1	1
Communication Equipment	35	35	35	35	35	36
Missiles	4	4	4	4	4	4
Motor Vehicles	2	3	3	3	3	4
Shipbuilding	32	31	31	31	30	30
Tanks	1	1	1	1	1	1
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	175	172	183	185	188	198
<b>Total:</b>	<b>257</b>	<b>253</b>	<b>263</b>	<b>266</b>	<b>269</b>	<b>281</b>

**Projected Defense Purchases of  
Aluminum Rolling and Drawing Products**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	9	9	9	9	8	9
Indirect Purchases	714	707	714	723	737	771
<b>Total :</b>	<b>724</b>	<b>716</b>	<b>723</b>	<b>732</b>	<b>746</b>	<b>781</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	20	19	19	18	18	18
Aircraft Parts	92	94	93	92	93	95
Ammunition	49	48	52	53	55	58
Communication Equipment	43	43	42	42	42	43
Missiles	20	20	19	19	19	19
Motor Vehicles	10	10	11	13	14	15
Shipbuilding	63	61	60	60	58	57
Tanks	27	27	29	31	35	38
Other Electronic Equipment	4	3	3	3	3	3
Other Ordinances	1	1	1	1	1	2
Other	386	379	384	390	399	422
<b>Total :</b>	<b>714</b>	<b>707</b>	<b>714</b>	<b>723</b>	<b>737</b>	<b>771</b>

**Projected Defense Purchases of  
Pipes, Valves, and Pipe Fittings**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	88	88	86	84	79	89
Indirect Purchases	547	553	568	570	583	612
<b>Total :</b>	<b>635</b>	<b>641</b>	<b>654</b>	<b>654</b>	<b>661</b>	<b>701</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	4	4	4	4	4	4
Aircraft Parts	15	16	16	16	17	17
Ammunition	3	3	4	4	4	4
Communication Equipment	6	6	6	6	6	7
Missiles	4	4	4	4	5	5
Motor Vehicles	3	3	3	4	4	4
Shipbuilding	182	182	182	186	183	184
Tanks	0	1	1	1	1	1
Other Electronic Equipment	1	1	1	1	1	1
Other Ordinances	0	0	0	0	0	0
Other	329	334	348	345	359	385
<b>Total :</b>	<b>547</b>	<b>553</b>	<b>568</b>	<b>570</b>	<b>583</b>	<b>612</b>

**Projected Defense Purchases of  
Plastics Materials and Resins**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	5	5	5	5	5	5
Indirect Purchases	634	635	640	631	641	680
<b>Total :</b>	<b>639</b>	<b>640</b>	<b>644</b>	<b>636</b>	<b>646</b>	<b>685</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	15	15	15	14	14	15
Aircraft Parts	41	43	43	43	43	45
Ammunition	19	19	21	22	23	25
Communication Equipment	47	48	48	49	50	53
Missiles	25	25	25	24	25	25
Motor Vehicles	16	18	20	23	25	27
Shipbuilding	20	19	19	19	19	19
Tanks	5	5	5	6	6	7
Other Electronic Equipment	15	14	15	15	14	15
Other Ordinances	0	1	1	1	1	1
Other	429	429	429	416	420	449
<b>Total :</b>	<b>634</b>	<b>635</b>	<b>640</b>	<b>631</b>	<b>641</b>	<b>680</b>

**Projected Defense Purchases of  
Electrical Machinery, Equipment and Supplies, n.e.c.**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	621	622	610	608	612	624
Indirect Purchases	12	12	12	12	12	13
<b>Total :</b>	<b>633</b>	<b>634</b>	<b>622</b>	<b>620</b>	<b>625</b>	<b>637</b>
<b>INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR</b>						
Aircraft Engines	0	0	0	0	0	0
Aircraft Parts	0	0	0	0	0	0
Ammunition	0	0	0	0	0	0
Communication Equipment	6	6	6	6	6	7
Missiles	0	0	0	0	0	0
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	0	0	0	0	0	0
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	5	5	5	5	5	5
<b>Total :</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>13</b>

**Projected Defense Purchases of  
Paper Mills, Including Building Paper**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	7	7	7	6	5	7
Indirect Purchases	610	603	597	577	574	605
<b>Total:</b>	<b>617</b>	<b>610</b>	<b>604</b>	<b>583</b>	<b>579</b>	<b>612</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	16	15	15	14	14	14
Aircraft Parts	18	19	19	19	19	19
Ammunition	19	19	20	21	22	23
Communication Equipment	37	37	36	36	36	37
Missiles	17	16	16	15	15	16
Motor Vehicles	5	5	6	7	7	8
Shipbuilding	15	14	14	14	14	14
Tanks	1	1	2	2	2	2
Other Electronic Equipment	1	1	1	1	1	1
Other Ordinances	1	1	1	1	1	1
Other	480	474	468	447	442	469
<b>Total:</b>	<b>610</b>	<b>603</b>	<b>597</b>	<b>577</b>	<b>574</b>	<b>605</b>

**Projected Defense Purchases of  
Special Dies, Jigs, Molds, and Cutting Tools**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
Direct Purchases	98	60	86	88	82	85
Indirect Purchases	515	516	532	546	571	603
<b>Total :</b>	<b>613</b>	<b>576</b>	<b>618</b>	<b>634</b>	<b>653</b>	<b>688</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	37	37	36	35	35	36
Aircraft Parts	17	18	18	18	18	19
Ammunition	26	26	28	29	30	32
Communication Equipment	21	22	22	22	22	23
Missiles	19	18	18	18	18	18
Motor Vehicles	13	13	14	16	17	19
Shipbuilding	19	19	19	19	18	18
Tanks	3	3	3	3	3	4
Other Electronic Equipment	2	2	2	2	2	2
Other Ordnances	1	1	1	1	1	1
Other	357	358	372	384	404	430
<b>Total :</b>	<b>515</b>	<b>516</b>	<b>532</b>	<b>546</b>	<b>571</b>	<b>603</b>

**Projected Defense Purchases of  
Laboratory and Optical Instruments**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
Direct Purchases	277	288	301	314	323	335
Indirect Purchases	282	279	275	273	276	283
<b>Total:</b>	<b>558</b>	<b>567</b>	<b>576</b>	<b>587</b>	<b>599</b>	<b>617</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	5	5	5	5	5	5
Aircraft Parts	50	52	52	52	53	54
Ammunition	4	4	4	4	5	5
Communication Equipment	9	10	10	10	10	11
Missiles	186	180	175	173	174	177
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	0	0	0	0	0	0
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	27	28	28	28	29	30
<b>Total:</b>	<b>282</b>	<b>279</b>	<b>275</b>	<b>273</b>	<b>276</b>	<b>283</b>

**Projected Defense Purchases of  
Newspaper Publishing and Printing**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	1	1	1	1	1	1
Indirect Purchases	584	564	550	525	518	531
Total :	585	564	551	526	519	532

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	24	23	22	20	20	20
Aircraft Parts	27	27	26	25	25	25
Ammunition	30	28	30	30	30	31
Communication Equipment	53	51	49	48	47	48
Missiles	24	23	22	21	20	20
Motor Vehicles	7	7	8	9	9	10
Shipbuilding	15	15	14	14	13	12
Tanks	2	2	2	2	2	2
Other Electronic Equipment	1	1	1	1	1	1
Other Ordinances	1	1	1	1	1	1
Other	401	386	376	355	349	361
Total :	584	564	550	525	518	531

**Projected Defense Purchases of  
Industrial and Commercial Machinery, n.e.c.**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
Direct Purchases	48	49	51	52	53	57
Indirect Purchases	501	502	522	528	546	577
Total :	549	551	573	581	599	634

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	30	30	29	29	29	30
Aircraft Parts	47	49	49	50	51	53
Ammunition	47	47	51	53	57	61
Communication Equipment	33	34	34	35	36	38
Missiles	22	22	21	21	22	22
Motor Vehicles	21	24	29	34	37	41
Shipbuilding	35	35	35	35	35	35
Tanks	3	3	3	4	4	5
Other Electronic Equipment	3	2	3	3	3	3
Other Ordinances	2	2	2	2	2	2
Other	258	254	265	263	271	288
Total :	501	502	522	528	546	577

**Projected Defense Purchases of  
Metal Plating, Polishing, and Coating**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	2	2	2	1	2	2
Indirect Purchases	539	545	559	571	588	622
<b>Total :</b>	<b>541</b>	<b>547</b>	<b>561</b>	<b>572</b>	<b>590</b>	<b>624</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	42	42	40	40	40	40
Aircraft Parts	45	47	48	48	49	49
Ammunition	39	39	42	45	47	51
Communication Equipment	119	121	123	126	131	138
Missiles	29	29	29	29	30	31
Motor Vehicles	10	11	12	14	16	17
Shipbuilding	14	14	14	14	14	14
Tanks	2	2	2	2	2	2
Other Electronic Equipment	28	26	27	27	26	28
Other Ordinances	3	3	3	3	3	4
Other	210	213	220	223	230	246
<b>Total :</b>	<b>539</b>	<b>545</b>	<b>559</b>	<b>571</b>	<b>588</b>	<b>622</b>

*Note: numbers may not add due to rounding*

**Projected Defense Purchases of  
Screw Machine Products, Bolts and Nuts**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
Direct Purchases	20	20	20	19	16	21
Indirect Purchases	512	515	529	541	560	589
<b>Total :</b>	<b>532</b>	<b>535</b>	<b>549</b>	<b>560</b>	<b>576</b>	<b>610</b>

**SUMMARY OF DEFENSE PURCHASES**

	1998	1999	2000	2001	2002	2003
Aircraft Engines	12	12	12	12	12	12
Aircraft Parts	56	57	58	58	58	60
Ammunition	47	47	50	53	55	59
Communication Equipment	50	50	50	50	51	53
Missiles	13	13	13	13	13	14
Motor Vehicles	15	16	19	21	24	26
Shipbuilding	38	37	37	37	36	36
Tanks	6	6	6	7	8	9
Other Electronic Equipment	4	4	4	4	4	4
Other Ordinances	2	3	3	3	3	3
Other	269	270	278	285	296	314
<b>Total :</b>	<b>512</b>	<b>515</b>	<b>529</b>	<b>541</b>	<b>560</b>	<b>589</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

	1998	1999	2000	2001	2002	2003
Aircraft Engines	12	12	12	12	12	12
Aircraft Parts	56	57	58	58	58	60
Ammunition	47	47	50	53	55	59
Communication Equipment	50	50	50	50	51	53
Missiles	13	13	13	13	13	14
Motor Vehicles	15	16	19	21	24	26
Shipbuilding	38	37	37	37	36	36
Tanks	6	6	6	7	8	9
Other Electronic Equipment	4	4	4	4	4	4
Other Ordinances	2	3	3	3	3	3
Other	269	270	278	285	296	314
<b>Total :</b>	<b>512</b>	<b>515</b>	<b>529</b>	<b>541</b>	<b>560</b>	<b>589</b>

Note: numbers may not add due to rounding

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**Projected Defense Purchases of**  
**Hardware, n.e.c.**

Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	390	378	380	391	405	427
Indirect Purchases	217	222	223	221	227	236
<b>Total :</b>	<b>607</b>	<b>600</b>	<b>603</b>	<b>613</b>	<b>632</b>	<b>663</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	3	3	3	3	3	3
Aircraft Parts	60	61	61	61	62	64
Ammunition	3	3	3	3	3	3
Communication Equipment	2	2	2	2	2	2
Missiles	9	9	9	9	9	9
Motor Vehicles	6	6	7	8	9	9
Shipbuilding	14	13	13	13	13	13
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	120	123	124	121	125	131
<b>Total :</b>	<b>217</b>	<b>222</b>	<b>223</b>	<b>221</b>	<b>227</b>	<b>236</b>

**Projected Defense Purchases of  
Fabricated Metal Products, n.e.c.**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	123	113	119	118	111	124
Indirect Purchases	415	409	423	428	439	464
<b>Total :</b>	<b>538</b>	<b>522</b>	<b>542</b>	<b>546</b>	<b>550</b>	<b>588</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	5	5	5	5	5	5
Aircraft Parts	9	9	9	9	9	10
Ammunition	196	192	207	215	225	239
Communication Equipment	35	35	35	35	35	36
Missiles	5	5	4	4	5	5
Motor Vehicles	3	3	3	3	4	4
Shipbuilding	21	20	20	20	20	20
Tanks	10	10	11	12	13	15
Other Electronic Equipment	1	1	1	1	1	1
Other Ordinances	9	10	10	11	11	11
Other	122	119	118	113	112	119
<b>Total :</b>	<b>415</b>	<b>409</b>	<b>423</b>	<b>428</b>	<b>439</b>	<b>464</b>

**Projected Defense Purchases of  
Broadwoven Fabric Mills**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	67	62	60	61	61	67
Indirect Purchases	465	455	453	383	413	438
<b>Total:</b>	<b>531</b>	<b>517</b>	<b>512</b>	<b>444</b>	<b>474</b>	<b>506</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	9	9	8	8	8	8
Aircraft Parts	3	3	3	3	3	3
Ammunition	4	4	4	4	5	5
Communication Equipment	5	6	6	6	6	6
Missiles	4	4	4	4	4	4
Motor Vehicles	7	8	8	9	10	11
Shipbuilding	6	6	6	6	6	6
Tanks	1	1	1	1	1	1
Other Electronic Equipment	1	1	1	1	1	1
Other Ordinances	0	0	0	0	0	0
Other	424	415	412	341	370	393
<b>Total:</b>	<b>465</b>	<b>455</b>	<b>453</b>	<b>383</b>	<b>413</b>	<b>438</b>

*Note: numbers may not add due to rounding*

**Projected Defense Purchases of  
Miscellaneous Fabricated Textile Products**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	322	317	313	285	268	319
Indirect Purchases	177	179	184	177	189	203
<b>Total:</b>	<b>499</b>	<b>495</b>	<b>497</b>	<b>462</b>	<b>457</b>	<b>522</b>
<b>INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR</b>						
Aircraft Engines	1	1	0	0	0	1
Aircraft Parts	1	1	1	1	1	1
Ammunition	1	1	1	1	1	1
Communication Equipment	1	1	1	1	1	1
Missiles	1	1	1	1	1	1
Motor Vehicles	27	28	30	33	36	40
Shipbuilding	23	23	23	24	23	23
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	122	123	126	116	125	135
<b>Total:</b>	<b>177</b>	<b>179</b>	<b>184</b>	<b>177</b>	<b>189</b>	<b>203</b>

*Note: numbers may not add due to rounding*

**Projected Defense Purchases of  
Nonferrous Castings and forgings**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	2	2	2	2	2	2
Indirect Purchases	479	484	487	490	503	524
Total :	481	486	489	492	505	527

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	223	223	216	213	214	220
Aircraft Parts	36	37	38	38	39	40
Ammunition	44	43	47	49	51	55
Communication Equipment	12	12	12	12	12	13
Missiles	43	42	41	42	43	44
Motor Vehicles	1	1	2	2	2	2
Shipbuilding	7	7	7	7	7	7
Tanks	8	9	9	10	11	13
Other Electronic Equipment	1	1	1	1	1	1
Other Ordinances	2	2	2	2	2	2
Other	103	108	112	115	121	128
Total :	479	484	487	490	503	524

**Projected Defense Purchases of  
Steam, Gas, and Hydraulic Turbines**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	424	481	585	678	756	826
Indirect Purchases	23	23	24	25	26	27
<b>Total :</b>	<b>447</b>	<b>504</b>	<b>610</b>	<b>704</b>	<b>782</b>	<b>853</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	0	0	0	0	0	0
Aircraft Parts	0	0	0	0	0	0
Ammunition	0	0	0	0	0	0
Communication Equipment	0	0	0	0	0	0
Missiles	0	0	0	0	0	0
Motor Vehicles	0	0	0	0	0	0
Shipbuilding	8	7	7	7	6	6
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordinances	0	0	0	0	0	0
Other	14	14	16	17	18	20
<b>Total :</b>	<b>23</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>

**Projected Defense Purchases of  
Paperboard Containers and Boxes**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	14	14	14	14	13	15
Indirect Purchases	455	453	452	437	435	470
<b>Total:</b>	<b>469</b>	<b>466</b>	<b>465</b>	<b>450</b>	<b>448</b>	<b>486</b>

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	7	7	7	7	7	7
Aircraft Parts	10	10	10	10	10	11
Ammunition	21	22	23	24	26	28
Communication Equipment	38	38	37	37	38	39
Missiles	8	8	8	8	8	8
Motor Vehicles	6	6	7	8	9	10
Shipbuilding	14	14	14	14	14	13
Tanks	1	1	1	2	2	2
Other Electronic Equipment	4	3	4	4	4	4
Other Ordinances	1	1	1	1	1	1
Other	345	342	340	322	317	347
<b>Total:</b>	<b>455</b>	<b>453</b>	<b>452</b>	<b>437</b>	<b>435</b>	<b>470</b>

**Projected Defense Purchases of  
Photographic Equipment and Supplies**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	215	223	227	231	236	248
Indirect Purchases	235	236	238	235	238	252
Total :	450	459	465	466	475	500

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	5	5	5	5	5	5
Aircraft Parts	7	7	7	8	8	8
Ammunition	18	17	19	20	21	22
Communication Equipment	13	13	13	13	14	14
Missiles	7	7	7	7	7	7
Motor Vehicles	1	1	2	2	2	2
Shipbuilding	5	5	5	5	5	5
Tanks	1	1	1	1	1	1
Other Electronic Equipment	1	1	1	1	1	1
Other Ordinances	0	0	0	0	0	0
Other	177	178	178	174	175	185
Total :	235	236	238	235	238	252

**Projected Defense Purchases of  
Fabricated Structural Metal Products**  
Rounded to Millions of 1999 Dollars

	1998	1999	2000	2001	2002	2003
<b>SUMMARY OF DEFENSE PURCHASES</b>						
Direct Purchases	41	39	38	39	41	42
Indirect Purchases	403	405	408	414	415	424
Total :	445	444	446	453	456	466

**INDIRECT DEFENSE PURCHASES BY PURCHASING SECTOR**

Aircraft Engines	4	4	3	3	3	4
Aircraft Parts	56	58	58	58	59	61
Ammunition	2	2	2	2	2	2
Communication Equipment	15	15	15	15	16	16
Missiles	10	10	10	10	10	10
Motor Vehicles	1	1	1	1	1	1
Shipbuilding	288	285	284	288	282	281
Tanks	0	0	0	0	0	0
Other Electronic Equipment	0	0	0	0	0	0
Other Ordnances	0	0	0	0	0	0
Other	28	30	35	36	41	47
Total :	403	405	408	414	415	424

### **SECTION III: INDIVIDUAL STATE PROJECTIONS**

The tables in this section give state-level estimates of defense and defense-related expenditures in calendar years 1998 through 2003. A separate table presents estimates for each of the 50 states and the District of Columbia; an additional table is provided for the United States as a whole. Each table is divided into two parts, the first providing a general overview of projected spending trends over the forecast period, and the second presenting estimates for the industrial sectors projected to lead in defense or defense-related sales statewide.

The first section of each table presents estimates of direct defense purchases, pay, and indirect defense purchases for each year of the projection period. (For purposes of comparison, projections of nondefense expenditures and of total output — total economic activity — also are provided.)<sup>3</sup>

The second section provides estimates of the dollar value of direct and indirect purchases from the five industrial sectors projected to lead in defense sales in the state, and the five projected to lead in indirect sales stemming from DoD purchases, over the forecast period.

The industrial *sectors* represented in the tables are aggregates of the *industries* covered in Section II. Industrial projections are made for 320 industries. For purposes of the state-level reports, these are grouped into 85 industrial sectors. Thus, industrial sector 44, "Aerospace," appearing in the state tables, includes four industries: industry 235, "Aircraft"; industry 236, "Aircraft and missile engines, propulsion units, and parts"; industry 237, "Aircraft and missile parts and auxiliary equipment, n.e.c."; and industry 21, "Guided missiles and space vehicles."

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<sup>3</sup> Total nondefense expenditures represent the difference between *total output* and *total (direct plus indirect) defense purchases and pay*. Note that total output is different from (and larger than) gross domestic product (GDP). The calculation of GDP nets out intermediate goods; that is, it does not include the value of intermediate products, which are used to make (or are included in) goods for final sale. Total output includes these intermediate products.

## Alabama Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	5,338	5,259	5,171	5,011	5,024	5,092
Indirect Defense Purchases Resulting from Direct Purchases	2,300	2,301	2,302	2,244	2,264	2,382
Indirect Defense Purchases Resulting from Direct Pay	1,208	1,175	1,152	1,148	1,141	1,140
Total Nondefense Expenditures	229,633	232,484	237,541	241,972	246,147	250,514
Total Output	238,483	241,224	246,172	250,381	254,581	259,133
Government Industry Compensation	2,606	2,570	2,531	2,518	2,502	2,495

### LARGEST PURCHASES BY INDUSTRIAL SECTORS

Total Direct Expenditures (Purchases and Pay)	914	906	914
Research Labs, Computer and Engineering Services	1,006	988	949
Aerospace	433	431	432
Air Transportation	230	228	230
Apparel and Household Textiles	198	192	189
Construction	157	149	143
Indirect Defense Purchases Resulting from Direct Purchases	744	747	742
Research Labs, Computer and Engineering Services	103	104	105
Wholesale Trade	93	93	94
Other Nonferrous Metals	90	89	90
Ferrous Metals	71	72	75
Metal Products			77
			79
			84

## Alaska Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Total Direct Expenditures (Purchases and Pay)	2,468	2,424	2,412	2,237	2,312	2,400
Indirect Defense Purchases Resulting from Direct Purchases	500	495	492	471	462	507
Indirect Defense Purchases Resulting from Direct Pay	389	378	371	370	368	368
Total Nondefense Expenditures	36,865	37,172	37,657	38,161	38,534	38,874
Total Output	40,221	40,469	40,932	41,239	41,676	42,149
Government Industry Compensation	972	961	944	941	932	930

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

<b>Total Direct Expenditures (Purchases and Pay)</b>	430	424	435	450	466	511
Communications Services	261	256	260	172	215	221
Trucking and Highway Passenger Transit	251	246	249	164	204	209
Railroads	168	162	158	160	164	164
Construction	128	124	121	122	122	126
Research Labs, Computer and Engineering Services						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	110	108	106	96	85	105
Crude Oil	95	94	95	95	98	104
Research Labs, Computer and Engineering Services	34	34	35	34	35	37
Electric Utilities	30	29	29	29	29	30
Gas Utilities	29	29	28	28	28	29
Air Transportation						

## Arizona Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	4,539	4,541	4,546	4,574	4,632	4,746
Indirect Defense Purchases Resulting from Direct Purchases	1,939	1,963	1,983	1,965	2,004	2,117
Indirect Defense Purchases Resulting from Direct Pay	1,252	1,223	1,204	1,203	1,198	1,199
Total Nondefense Expenditures	213,393	217,083	222,660	227,602	232,449	237,558
Total Output	221,126	224,814	230,395	235,347	240,284	245,622
Government Industry Compensation	2,122	2,102	2,076	2,068	2,054	2,048

### LARGEST PURCHASES BY INDUSTRIAL SECTORS

<b>Total Direct Expenditures (Purchases and Pay)</b>	888	904	919	944	982	1,030
Aerospace	459	452	441	438	434	445
Research Labs, Computer and Engineering Services	335	341	360	379	401	427
Metal Products	129	138	141	140	143	150
Other Chemicals	131	126	123	125	128	127
Construction						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	374	390	405	421	444	478
Communications Equipment and Electronic Components	339	342	344	342	348	367
Research Labs, Computer and Engineering Services	254	261	256	248	245	244
Aerospace	89	89	89	88	89	95
Wholesale Trade	85	85	85	82	83	89
Finance and Insurance						

## Arkansas Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Total Direct Expenditures (Purchases and Pay)	1,310	1,294	1,282	1,245	1,248	1,272
Indirect Defense Purchases Resulting from Direct Purchases	851	852	859	836	843	900
Indirect Defense Purchases Resulting from Direct Pay	508	493	482	479	474	472
Total Nondefense Expenditures	129,631	131,261	134,499	137,188	139,732	142,395
Total Output	132,303	133,903	137,127	139,751	142,300	145,043
Government Industry Compensation	839	832	822	818	813	811
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Aerospace	96	97	96	97	99	103
Construction	72	70	68	69	70	70
Air Transportation	68	67	67	54	61	62
Food and Tobacco	47	47	46	42	35	47
Shoes and Leather	32	31	30	21	25	26
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Wholesale Trade	59	59	60	59	60	64
Other Nonferrous Metals	58	58	58	59	60	63
Metal Products	53	53	55	56	57	61
Trucking and Highway Passenger Transit	43	43	44	40	42	45
Paper	41	41	41	40	39	42

## California Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	42,528	42,265	41,964	41,696	41,759	43,353
Indirect Defense Purchases Resulting from Direct Purchases	15,786	15,814	15,824	15,442	15,581	16,514
Indirect Defense Purchases Resulting from Direct Pay	7,935	7,730	7,577	7,556	7,509	7,503
Total Nondefense Expenditures	1,624,784	1,648,769	1,684,964	1,718,646	1,750,935	1,783,858
Total Output	1,691,025	1,714,570	1,750,321	1,783,335	1,815,780	1,851,224
Government Industry Compensation	14,388	14,202	13,979	13,915	13,818	13,782

### LARGEST PURCHASES BY INDUSTRIAL SECTORS

<b>Total Direct Expenditures (Purchases and Pay)</b>	8,203	8,295	8,344	8,493	8,782	9,167
Aerospace	6,582	6,461	6,252	6,156	6,096	6,205
Research Labs, Computer and Engineering Services	1,912	1,922	1,916	1,922	1,944	2,014
Communications Equipment and Electronic Components	1,230	1,199	1,196	1,223	1,211	1,218
Ships and Boats	1,035	1,087	1,108	1,119	1,150	1,203
Instruments						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	4,865	4,885	4,885	4,811	4,885	5,118
Research Labs, Computer and Engineering Services	1,282	1,315	1,343	1,381	1,436	1,535
Communications Equipment and Electronic Components	1,085	1,101	1,075	1,042	1,029	1,031
Aerospace	821	823	835	825	838	896
Wholesale Trade	628	620	613	556	513	609
Petroleum Refining						

## Colorado Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	6,742	6,625	6,434	6,309	6,281	6,357
Indirect Defense Purchases Resulting from Direct Purchases	1,947	1,944	1,942	1,892	1,900	2,018
Indirect Defense Purchases Resulting from Direct Pay	1,323	1,289	1,264	1,259	1,250	1,248
Total Nondefense Expenditures	234,100	237,566	242,815	247,291	251,938	256,987
Total Output	244,113	247,425	252,455	256,752	261,369	266,610
Government Industry Compensation	2,479	2,452	2,417	2,407	2,391	2,384

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

Total Direct Expenditures (Purchases and Pay)	Aerospace	Research Labs, Computer and Engineering Services	Communications Services	Communications Equipment and Electronic Components	Construction	Indirect Defense Purchases Resulting from Direct Purchases	Research Labs, Computer and Engineering Services	Communications Equipment and Electronic Components	Wholesale Trade	Crude Oil	Communications Services	
	2,423	2,362	2,234	2,143	2,121	2,130	490	493	495	488	497	522
	663	652	633	625	620	633	119	119	118	119	121	128
	282	276	285	300	318	343	105	105	106	104	105	112
	272	266	253	244	242	245	106	104	102	93	83	103
	157	151	148	150	153	153	101	103	105	105	107	117

## Connecticut Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	4,175	4,079	4,104	4,127	4,209	4,369
Indirect Defense Purchases Resulting from Direct Purchases	4,277	4,083	3,866	3,662	3,770	3,940
Indirect Defense Purchases Resulting from Direct Pay	611	594	580	576	571	568
Total Nondfense Expenditures	181,277	183,707	187,602	191,208	194,333	197,596
Total Output	190,316	192,435	196,136	199,558	202,869	206,459
Government Industry Compensation	709	700	689	686	681	679

### LARGEST PURCHASES BY INDUSTRIAL SECTORS

<b>Total Direct Expenditures (Purchases and Pay)</b>	946	978	1,015	1,061	1,121	1,190
Aerospace	609	595	586	591	588	594
Ships and Boats	460	452	442	443	448	463
Research Labs, Computer and Engineering Services	553	443	435	404	416	427
Real Estate	182	195	198	197	201	212
Other Chemicals						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	2,577	2,369	2,150	1,984	2,081	2,176
Real Estate	340	342	346	346	359	382
Research Labs, Computer and Engineering Services	323	337	337	329	325	326
Aerospace	123	123	124	118	120	128
Finance and Insurance						
Communications Equipment and Electronic Components	95	96	96	98	102	109

## Delaware Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Total Direct Expenditures (Purchases and Pay)	827	837	828	805	809	828
Indirect Defense Purchases Resulting from Direct Purchases	309	309	311	301	303	326
Indirect Defense Purchases Resulting from Direct Pay	214	208	204	204	203	202
Total Nondefense Expenditures	53,375	53,982	55,489	56,776	57,912	59,047
Total Output	54,724	55,337	56,833	58,085	59,227	60,405
Government Industry Compensation	372	368	363	361	359	358

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

<b>Total Direct Expenditures (Purchases and Pay)</b>	290	308	305	296	300	314
Medical Instruments and Supplies	30	29	30	20	25	25
Trucking and Highway Passenger Transit	24	24	23	23	24	24
Construction	15	15	14	14	13	14
Research Labs, Computer and Engineering Services	11	11	11	11	11	11
Education and Nonprofit Organizations						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Other Chemicals	86	86	86	85	85	91
Finance and Insurance	33	32	32	30	31	32
Petroleum Refining	28	28	28	26	25	30
Wholesale Trade	20	20	21	20	21	22
Electric Utilities	13	13	13	13	13	14

**District of Columbia Summary**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	3,397	3,344	3,298	3,190	3,164	3,298
Indirect Defense Purchases Resulting from Direct Purchases	700	691	683	666	676	712
Indirect Defense Purchases Resulting from Direct Pay	611	593	581	578	574	572
Total Nondfense Expenditures	72,159	72,990	74,143	75,154	76,199	77,155
Total Output	76,866	77,617	78,704	79,587	80,613	81,738
Government Industry Compensation	1,506	1,478	1,447	1,439	1,428	1,425

**LARGEST PURCHASES BY INDUSTRIAL SECTORS**

<b>Total Direct Expenditures (Purchases and Pay)</b>	610	613	613	601	562	659
Communications Services	491	483	470	467	461	471
Research Labs, Computer and Engineering Services	364	358	354	284	317	320
Water Transportation	97	95	93	95	96	96
Construction	51	50	51	51	53	53
Computers						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	363	365	368	365	369	389
Research Labs, Computer and Engineering Services	130	120	109	100	105	110
Real Estate	32	32	32	31	31	34
Communications Services	24	24	24	23	23	24
Printing and Publishing	22	22	22	22	22	23
Electric Utilities						

## Florida Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	14,939	14,817	14,670	14,532	14,578	14,834
Indirect Defense Purchases Resulting from Direct Purchases	4,654	4,686	4,729	4,629	4,710	5,005
Indirect Defense Purchases Resulting from Direct Pay	4,523	4,420	4,345	4,343	4,327	4,333
Total Nondefense Expenditures	688,009	699,736	717,518	734,007	750,495	767,128
Total Output	712,160	723,695	741,311	757,558	774,151	791,338
Government Industry Compensation	7,633	7,562	7,468	7,439	7,391	7,371
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Aerospace	1,913	1,915	1,912	1,930	1,971	2,041
Research Labs, Computer and Engineering Services	1,630	1,605	1,568	1,562	1,565	1,610
Communications Equipment and Electronic Components	808	792	770	757	753	767
Metal Products	400	403	420	437	458	483
Construction	377	364	354	359	367	367
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Research Labs, Computer and Engineering Services	1,205	1,214	1,225	1,221	1,254	1,328
Wholesale Trade	354	357	364	362	369	396
Communications Equipment and Electronic Components	337	340	344	354	369	397
Finance and Insurance	281	282	286	275	282	303
Movies and Amusements	236	232	231	224	218	230

## Georgia Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	10,494	10,313	10,123	9,943	9,918	10,044
Indirect Defense Purchases Resulting from Direct Purchases	3,102	3,109	3,117	3,029	3,076	3,260
Indirect Defense Purchases Resulting from Direct Pay	2,474	2,415	2,374	2,372	2,362	2,364
Total Nondefense Expenditures	434,425	442,014	454,191	464,845	475,220	486,129
Total Output	450,487	457,845	469,789	480,175	490,566	501,787
Government Industry Compensation	4,971	4,910	4,831	4,812	4,775	4,763

### LARGEST PURCHASES BY INDUSTRIAL SECTORS

#### Total Direct Expenditures (Purchases and Pay)

Aerospace	3,475	3,427	3,309	3,240	3,257	3,318
Research Labs, Computer and Engineering Services	442	435	426	427	426	439
Ships and Boats	210	205	204	209	207	209
Construction	209	202	196	199	204	203
Trucking and Highway Passenger Transit	127	124	126	84	104	107
<b>Indirect Purchases Resulting from Direct Purchases</b>						
Research Labs, Computer and Engineering Services	326	329	333	334	341	362
Aerospace	312	317	301	289	284	285
Wholesale Trade	257	259	264	261	265	284
Communications Services	201	208	217	220	228	252
Textiles (Except Knitting)	191	188	188	165	176	188

## Hawaii Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	3,629	3,572	3,509	3,452	3,432	3,474
Indirect Defense Purchases Resulting from Direct Purchases	505	502	503	490	497	527
Indirect Defense Purchases Resulting from Direct Pay	1,078	1,051	1,033	1,030	1,025	1,025
Total Nondefense Expenditures	89,008	90,650	92,478	94,015	95,554	97,241
Total Output	94,219	95,774	97,523	98,988	100,507	102,267
Government Industry Compensation	2,674	2,636	2,588	2,577	2,555	2,549

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

### Total Direct Expenditures (Purchases and Pay)

Construction	291	283	277	282	286	286
Research Labs, Computer and Engineering Services	174	169	164	165	164	168
Trucking and Highway Passenger Transit	86	85	86	57	71	73
Electric Utilities	55	55	56	57	57	58
Petroleum Refining	52	52	51	46	39	52
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Research Labs, Computer and Engineering Services	129	128	128	129	132	139
Electric Utilities	70	70	71	70	71	76
Air Transportation	39	40	40	40	41	43
Eating and Drinking Places	29	29	28	27	27	28
Wholesale Trade	26	26	27	26	27	28

## Idaho Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	536	527	518	511	502	506
Indirect Defense Purchases Resulting from Direct Purchases	466	471	476	468	472	502
Indirect Defense Purchases Resulting from Direct Pay	254	248	244	244	244	244
Total Nondefense Expenditures	59,911	61,004	62,649	64,010	65,311	66,646
Total Output	61,168	62,251	63,888	65,234	66,529	67,899
Government Industry Compensation	391	387	383	381	378	377
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
Total Direct Expenditures (Purchases and Pay)	60	56	53	51	46	45
Electric Utilities	28	27	26	27	27	27
Construction	13	13	12	12	12	12
Research Labs, Computer and Engineering Services	8	8	7	7	7	7
Communications Equipment and Electronic Components	7	7	7	7	5	7
Food and Tobacco						
99 Indirect Defense Purchases Resulting from Direct Purchases	124	134	141	147	154	166
Communications Equipment and Electronic Components	76	72	68	62	57	59
Electric Utilities	34	34	34	34	34	37
Wholesale Trade	20	20	20	20	20	20
Computers	20	20	20	19	19	21
Finance and Insurance						

## **Illinois Summary**

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	4,228	4,161	4,126	4,019	4,011	4,123
Indirect Defense Purchases Resulting from Direct Purchases	4,576	4,543	4,546	4,404	4,436	4,718
Indirect Defense Purchases Resulting from Direct Pay	2,166	2,106	2,057	2,048	2,032	2,026
Total Nondfense Expenditures	692,845	698,039	711,041	722,927	735,046	747,597
Total Output	703,818	708,853	721,775	733,403	745,528	758,468
Government Industry Compensation	2,288	2,259	2,222	2,213	2,196	2,190

## **LARGEST PURCHASES BY INDUSTRIAL SECTORS**

Total Direct Expenditures (Purchases and Pay)	305	299	290	285	281	285
Research Labs, Computer and Engineering Services	177	172	168	170	174	174
Construction	171	167	170	113	140	144
Trucking and Highway Passenger Transit	162	165	170	177	186	196
Aerospace	156	155	152	140	116	157
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Wholesale Trade	400	398	401	393	397	422
Finance and Insurance	345	343	343	326	331	352
Metal Products	291	290	296	298	304	319
Petroleum Refining	281	277	272	247	230	276
Communications Equipment and Electronic Components	284	275	266	262	262	273

## Indiana Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	2,838	2,809	2,811	2,793	2,786	2,906
Indirect Defense Purchases Resulting from Direct Purchases	2,622	2,615	2,631	2,581	2,603	2,749
Indirect Defense Purchases Resulting from Direct Pay	1,084	1,061	1,043	1,043	1,041	1,043
Total Nondefense Expenditures	348,319	351,686	360,334	367,612	374,787	381,971
Total Output	354,876	358,184	366,834	374,042	381,229	388,679
Government Industry Compensation	1,284	1,260	1,238	1,230	1,223	1,220

### LARGEST PURCHASES BY INDUSTRIAL SECTORS

#### Total Direct Expenditures (Purchases and Pay)

Research Labs, Computer and Engineering Services	286	282	276	274	271	278
Communications Equipment and Electronic Components	285	280	283	287	286	295
Aerospace	244	243	240	243	249	258
Engines and Turbines	65	77	98	118	133	146
Petroleum Refining	63	64	64	58	52	70

#### Indirect Defense Purchases Resulting from Direct Purchases

Ferrous Metals	326	321	324	326	328	337
Other Nonferrous Metals	223	223	226	229	236	249
Research Labs, Computer and Engineering Services	211	213	216	214	217	229
Metal Products	190	192	197	200	204	215
Wholesale Trade	149	149	151	149	150	160

## Iowa Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	839	828	820	815	817	834
Indirect Defense Purchases Resulting from Direct Purchases	754	750	755	736	745	793
Indirect Defense Purchases Resulting from Direct Pay	425	413	402	399	395	393
Total Nondefense Expenditures	152,363	153,383	156,580	159,581	162,364	165,203
Total Output	154,381	155,375	158,557	161,532	164,322	167,223
Government Industry Compensation	284	281	277	276	275	274

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

<b>Total Direct Expenditures (Purchases and Pay)</b>	242	243	239	237	240	247
Communications Equipment and Electronic Components	85	87	87	86	88	91
Instruments	47	43	45	46	45	46
Metal Products	36	35	34	34	34	34
Research Labs, Computer and Engineering Services	32	32	31	32	32	32
Construction						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Wholesale Trade	88	88	89	88	89	95
Finance and Insurance	68	67	67	64	65	69
Metal Products	47	47	48	49	50	52
Other Nonferrous Metals	46	46	46	47	48	50
Food and Tobacco	43	42	42	38	36	41

## Kansas Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	2,199	2,164	2,138	2,111	2,078	2,117
Indirect Defense Purchases Resulting from Direct Purchases	1,304	1,309	1,312	1,265	1,264	1,356
Indirect Defense Purchases Resulting from Direct Pay	691	672	658	655	651	650
Total Nondfense Expenditures	143,931	145,280	148,184	150,969	153,852	156,796
Total Output	148,129	149,429	152,296	155,004	157,846	160,921
Government Industry Compensation	1,212	1,199	1,181	1,177	1,167	1,164

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

Total Direct Expenditures (Purchases and Pay)	438	433	439	449	448	461
Aerospace	104	101	99	99	98	101
Research Labs, Computer and Engineering Services	82	78	76	77	79	79
Construction	60	59	58	53	44	60
Food and Tobacco	58	52	44	36	19	18
Petroleum Refining						
Indirect Defense Purchases Resulting from Direct Purchases	262	272	273	270	270	272
Aerospace	106	105	103	93	87	104
Petroleum Refining	92	90	88	80	71	88
Crude Oil	88	88	90	85	88	93
Automobile Repairs	80	80	81	80	81	86
Wholesale Trade						

## Kentucky Summary

Rounded to Millions of 1999 dollars

### AGGREGATE MEASURES

	1998	1999	2000	2001	2002	2003
Total Direct Expenditures (Purchases and Pay)	2,867	2,825	2,780	2,730	2,701	2,743
Indirect Defense Purchases Resulting from Direct Purchases	1,607	1,608	1,619	1,586	1,593	1,703
Indirect Defense Purchases Resulting from Direct Pay	1,047	1,020	1,001	998	993	993
Total Nondfense Expenditures	233,481	236,143	241,132	245,267	249,495	253,662
Total Output	239,006	241,600	246,536	250,586	254,786	259,105
Government Industry Compensation	1,941	1,918	1,886	1,879	1,863	1,859

### LARGEST PURCHASES BY INDUSTRIAL SECTORS

#### Total Direct Expenditures (Purchases and Pay)

Research Labs, Computer and Engineering Services	309	306	303	305	300	311
Construction	119	114	110	112	115	115
Air Transportation	85	84	85	68	76	78
Apparel and Household Textiles	51	51	50	43	43	50
Petroleum Refining	46	41	34	27	12	10

#### Indirect Defense Purchases Resulting from Direct Purchases

Research Labs, Computer and Engineering Services	228	232	237	238	241	257
Petroleum Refining	118	118	116	106	98	117
Other Nonferrous Metals	103	104	106	107	110	116
Wholesale Trade	94	94	95	93	94	101
Coal Mining	83	82	82	81	80	84

## Louisiana Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)						
Indirect Defense Purchases Resulting from Direct Purchases	4,193	4,128	4,080	4,002	3,900	4,102
Indirect Defense Purchases Resulting from Direct Pay	2,300	2,293	2,282	2,130	2,042	2,318
Total Nondefense Expenditures	958	933	914	912	906	904
Total Output	237,581	239,639	244,108	248,396	252,492	256,579
Government Industry Compensation	244,975	246,932	251,347	255,402	259,310	263,875
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
Total Direct Expenditures (Purchases and Pay)						
Ships and Boats	1,130	1,101	1,101	1,128	1,117	1,124
Petroleum Refining	436	429	415	372	304	397
Fuel Oil	301	304	303	277	246	331
Construction	244	230	221	223	233	231
Other Chemicals	126	136	139	138	142	148
Indirect Defense Purchases Resulting from Direct Purchases						
Crude Oil	644	639	630	574	517	642
Petroleum Refining	482	478	474	433	402	479
Other Chemicals	135	136	136	132	133	141
Wholesale Trade	102	103	104	103	104	112
Fuel Oil	91	89	88	76	76	84

## Maine Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	2,585	2,527	2,520	2,532	2,526	2,547
Indirect Defense Purchases Resulting from Direct Purchases	355	359	359	344	343	360
Indirect Defense Purchases Resulting from Direct Pay	344	336	330	330	329	330
Total Nondefense Expenditures	64,682	65,448	66,741	67,899	69,027	70,229
Total Output	67,968	68,671	69,950	71,105	72,226	73,465
Government Industry Compensation	643	633	622	619	615	613

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

<b>Total Direct Expenditures (Purchases and Pay)</b>	1,672	1,629	1,629	1,671	1,655	1,665
Ships and Boats	68	68	72	76	80	84
Metal Products	56	55	56	37	46	47
Trucking and Highway Passenger Transit	39	38	37	37	38	38
Construction	28	27	27	19	23	23
Medical Instruments and Supplies						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	58	60	62	63	66	70
Communications Equipment and Electronic Components	49	49	48	47	46	49
Paper	32	32	32	32	32	34
Wholesale Trade	23	23	23	22	22	23
Finance and Insurance	18	19	19	18	18	18
Aerospace						

## Maryland Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
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### AGGREGATE MEASURES

Total Direct Expenditures (Purchases and Pay)	9,448	9,326	9,211	9,086	9,083	9,303
Indirect Defense Purchases Resulting from Direct Purchases	3,187	3,186	3,191	3,125	3,162	3,337
Indirect Defense Purchases Resulting from Direct Pay	1,840	1,793	1,761	1,758	1,750	1,751
Total Nondefense Expenditures	322,596	327,416	334,109	340,423	346,766	353,185
Total Output	337,065	341,716	348,269	354,389	360,759	367,574
Government Industry Compensation	3,978	3,911	3,842	3,820	3,795	3,785

### LARGEST PURCHASES BY INDUSTRIAL SECTORS

<b>Total Direct Expenditures (Purchases and Pay)</b>	2,225	2,191	2,128	2,103	2,080	2,124
Research Labs, Computer and Engineering Services	443	448	454	464	479	501
Aerospace	420	420	422	418	400	461
Communications Services	336	332	332	334	334	344
Communications Equipment and Electronic Components	342	332	324	329	335	335
Construction						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	1,645	1,656	1,663	1,643	1,667	1,752
Research Labs, Computer and Engineering Services	131	131	133	131	134	143
Wholesale Trade	111	111	113	107	111	117
Automobile Repairs	108	101	96	89	81	82
Gas Utilities	95	96	97	96	98	104
Electric Utilities						

**Massachusetts Summary**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	7,794	7,757	7,653	7,604	7,673	7,903
Indirect Defense Purchases Resulting from Direct Purchases	4,445	4,453	4,455	4,369	4,440	4,669
Indirect Defense Purchases Resulting from Direct Pay	1,101	1,069	1,043	1,036	1,025	1,019
Total Nondefense Expenditures	387,647	393,270	401,955	409,966	417,663	425,586
Total Output	400,984	406,546	415,106	422,974	430,801	439,177
Government Industry Compensation	1,026	1,011	995	989	983	981

**LARGEST PURCHASES BY INDUSTRIAL SECTORS**

Total Direct Expenditures (Purchases and Pay)	2,856	2,805	2,708	2,655	2,643	2,686
Research Labs, Computer and Engineering Services	1,573	1,595	1,609	1,641	1,702	1,780
Aerospace	692	695	685	681	689	711
Communications Equipment and Electronic Components	342	356	360	360	369	385
Instruments	255	254	265	276	287	302
Metal Products						
Indirect Defense Purchases Resulting from Direct Purchases	2,111	2,120	2,116	2,075	2,118	2,216
Research Labs, Computer and Engineering Services	356	358	360	365	375	396
Communications Equipment and Electronic Components	206	206	208	199	203	218
Finance and Insurance	185	186	188	186	189	203
Wholesale Trade	127	130	125	120	118	117
Aerospace						

**Michigan Summary**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	5,123	5,171	5,369	5,556	5,758	6,079
Indirect Defense Purchases Resulting from Direct Purchases	3,043	3,055	3,090	3,033	3,070	3,247
Indirect Defense Purchases Resulting from Direct Pay	1,346	1,311	1,281	1,274	1,260	1,253
Total Nondefense Expenditures	553,299	553,467	567,468	577,052	585,945	595,686
Total Output	562,816	563,009	577,213	586,920	596,039	606,270
Government Industry Compensation	939	925	911	906	901	898

**LARGEST PURCHASES BY INDUSTRIAL SECTORS**

<b>Total Direct Expenditures (Purchases and Pay)</b>	1,411	1,450	1,593	1,749	1,887	2,053
Motor Vehicles	765	848	890	916	954	997
Other Nonelectrical Machinery	493	484	464	450	441	443
Research Labs, Computer and Engineering Services	439	427	441	468	503	550
Other Transportation Equipment	184	189	199	211	225	240
Metal Products						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	418	421	434	440	451	477
Metal Products	365	366	363	352	353	365
Research Labs, Computer and Engineering Services	229	229	231	227	229	244
Wholesale Trade	159	160	160	157	158	168
Other Chemicals	154	153	153	145	146	155
Finance and Insurance						

**Minnesota Summary**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)						
Total Direct Expenditures	2,516	2,522	2,561	2,594	2,633	2,757
Indirect Defense Purchases Resulting from Direct Purchases	1,990	1,990	2,000	1,951	1,968	2,090
Indirect Defense Purchases Resulting from Direct Pay	794	778	766	768	768	772
Total Nondefense Expenditures	281,263	285,160	292,001	298,421	304,865	311,667
Total Output	286,569	290,457	297,336	303,741	310,240	317,292
Government Industry Compensation	460	455	449	447	444	443
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
Total Direct Expenditures (Purchases and Pay)						
Metal Products	823	836	882	926	976	1,038
Research Labs, Computer and Engineering Services	362	356	344	337	332	337
Computers	315	316	313	307	304	311
Other Electrical Equipment	84	82	81	82	81	85
Aerospace	79	80	82	85	88	93
Indirect Defense Purchases Resulting from Direct Purchases						
Research Labs, Computer and Engineering Services	267	269	269	263	266	278
Wholesale Trade	170	171	174	172	175	188
Communications Equipment and Electronic Components	142	142	144	147	151	161
Finance and Insurance	117	117	117	112	114	122
Printing and Publishing	108	107	106	104	104	110

## Mississippi Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	4,499	4,417	4,375	4,325	4,321	4,399
Indirect Defense Purchases Resulting from Direct Purchases	927	930	932	895	890	956
Indirect Defense Purchases Resulting from Direct Pay	693	673	659	656	651	649
Total Nondfense Expenditures	129,260	130,405	132,937	135,175	137,284	139,497
Total Output	135,378	136,423	138,804	140,959	143,067	145,431
Government Industry Compensation	1,510	1,491	1,467	1,460	1,450	1,446

### LARGEST PURCHASES BY INDUSTRIAL SECTORS

<b>Total Direct Expenditures (Purchases and Pay)</b>	1,972	1,926	1,912	1,950	1,931	1,941
Ships and Boats	195	193	192	196	202	213
Research Labs, Computer and Engineering Services	170	164	161	115	133	134
Medical Instruments and Supplies	124	126	129	134	138	145
Aerospace	107	103	100	101	104	104
Construction						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	144	146	150	153	162	176
Research Labs, Computer and Engineering Services	94	93	92	84	79	95
Petroleum Refining	52	52	53	52	52	55
Wholesale Trade	43	43	44	45	46	48
Metal Products	41	40	38	34	30	37
Crude Oil						

## Missouri Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	6,474	6,461	6,440	6,473	6,565	6,767
Indirect Defense Purchases Resulting from Direct Purchases	2,842	2,844	2,851	2,780	2,809	2,939
Indirect Defense Purchases Resulting from Direct Pay	1,268	1,235	1,210	1,207	1,200	1,200
Total Nondefense Expenditures	320,844	323,995	331,142	337,160	343,351	349,811
Total Output	331,428	334,536	341,645	347,621	353,927	360,718
Government Industry Compensation	1,941	1,913	1,882	1,872	1,860	1,855

### LARGEST PURCHASES BY INDUSTRIAL SECTORS

Total Direct Expenditures (Purchases and Pay)	Aerospace	Research Labs, Computer and Engineering Services	Metal Products	Construction	Communications Services	Indirect Defense Purchases Resulting from Direct Purchases	Research Labs, Computer and Engineering Services	Aerospace	Wholesale Trade	Finance and Insurance	Metal Products
2,186	2,254	2,326	2,423	2,556	2,708	1,070	1,071	1,057	1,023	1,029	1,062
1,447	1,417	1,353	1,309	1,284	1,288	219	224	231	234	237	239
186	173	184	188	187	193	129	125	121	123	171	182
129	125	121	123	126	126	82	82	80	78	122	130
82	82	80	78	74	82					119	122

## Montana Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	436	431	426	420	415	425
Indirect Defense Purchases Resulting from Direct Purchases	223	222	222	213	213	231
Indirect Defense Purchases Resulting from Direct Pay	215	209	205	204	202	201
Total Nondefense Expenditures	35,348	35,715	36,428	37,014	37,623	38,256
Total Output	36,221	36,578	37,281	37,851	38,453	39,113
Government Industry Compensation	332	329	325	323	321	320

### **LARGEST PURCHASES BY INDUSTRIAL SECTORS**

Total Direct Expenditures (Purchases and Pay)	22	21	21	21	21	21
Construction	14	15	15	13	12	16
Petroleum Refining	13	13	13	12	11	14
Fuel Oil	10	10	10	10	10	10
Electric Utilities	6	6	6	4	5	5
Trucking and Highway Passenger Transit						
Indirect Defense Purchases Resulting from Direct Purchases	24	24	24	22	20	24
Petroleum Refining	20	20	21	20	21	22
Wholesale Trade	15	15	14	13	12	14
Crude Oil	13	13	13	13	13	14
Finance and Insurance	13	13	13	13	13	14
Other Nonferrous Metals						

## Nebraska Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Total Direct Purchases	1,176	1,163	1,145	1,134	1,113	1,145
Indirect Defense Purchases Resulting from Direct Purchases	599	595	598	583	588	626
Indirect Defense Purchases Resulting from Direct Pay	467	455	446	444	442	442
Total Nondefense Expenditures	97,119	98,209	100,353	102,160	104,090	106,085
Total Output	99,361	100,423	102,542	104,322	106,232	108,298
Government Industry Compensation	798	789	777	775	769	767
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Research Labs, Computer and Engineering Services	147	145	142	143	141	146
Food and Tobacco	95	94	92	84	70	95
Construction	42	41	40	40	41	41
Computers	14	14	14	14	14	14
Aerospace	13	13	13	13	13	13
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Research Labs, Computer and Engineering Services	109	110	111	112	113	120
Wholesale Trade	57	57	58	57	57	61
Finance and Insurance	50	50	50	48	49	52
Communications Equipment and Electronic Components	52	49	48	47	47	49
Communications Services	33	33	33	33	33	36

**Nevada Summary**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	1,169	1,155	1,143	1,136	1,131	1,137
Indirect Defense Purchases Resulting from Direct Purchases	414	414	417	407	413	438
Indirect Defense Purchases Resulting from Direct Pay	770	759	747	746	743	745
Total Nondfense Expenditures	77,357	79,472	81,946	84,083	86,375	88,921
Total Output	79,709	81,799	84,252	86,372	88,662	91,241
Government Industry Compensation	873	867	857	854	848	846
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
Total Direct Expenditures (Purchases and Pay)	106	104	102	102	101	104
Research Labs, Computer and Engineering Services	56	54	52	53	54	54
Construction	34	31	33	33	33	33
Metal Products	20	19	19	20	19	20
Communications Equipment and Electronic Components	16	16	16	16	15	16
Water and Sanitation						
Indirect Defense Purchases Resulting from Direct Purchases	78	79	80	80	81	85
Research Labs, Computer and Engineering Services	51	52	52	52	53	55
Nonferrous Metals Mining	28	28	29	29	29	31
Wholesale Trade	24	23	23	23	23	24
Communications Services	21	22	22	21	21	22
Construction						

**New Hampshire Summary**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	793	784	775	769	768	785
Indirect Defense Purchases Resulting from Direct Purchases	474	475	478	472	481	508
Indirect Defense Purchases Resulting from Direct Pay	238	232	227	226	225	224
Total Nondefense Expenditures	59,586	60,366	61,755	63,051	64,317	65,597
Total Output	61,091	61,857	63,234	64,518	65,790	67,114
Government Industry Compensation	283	280	277	276	275	274

**LARGEST PURCHASES BY INDUSTRIAL SECTORS**

<b>Total Direct Expenditures (Purchases and Pay)</b>	163	160	156	154	153	156
Communications Equipment and Electronic Components	93	91	88	87	86	87
Research Labs, Computer and Engineering Services	64	64	64	64	65	66
Instruments	26	29	30	31	32	34
Other Nonelectrical Machinery	28	26	26	26	27	27
Construction						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	69	69	68	68	69	72
Research Labs, Computer and Engineering Services	62	62	63	65	67	71
Communications Equipment and Electronic Components	30	30	31	31	32	34
Other Nonferrous Metals	27	27	27	27	27	28
Wholesale Trade	24	24	24	23	23	24
Finance and Insurance						

## New Jersey Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	6,011	5,917	5,847	5,635	5,724	5,942
Indirect Defense Purchases Resulting from Direct Purchases	3,683	3,677	3,706	3,632	3,702	3,965
Indirect Defense Purchases Resulting from Direct Pay	1,482	1,441	1,407	1,399	1,388	1,384
Total Nondefense Expenditures	468,639	474,055	483,682	492,634	501,455	510,669
Total Output	479,814	485,089	494,642	503,302	512,270	521,960
Government Industry Compensation	1,750	1,720	1,689	1,679	1,668	1,664
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>	<b>1,348</b>	<b>1,329</b>	<b>1,317</b>	<b>1,340</b>	<b>1,375</b>	<b>1,441</b>
Research Labs, Computer and Engineering Services	512	505	501	394	442	447
Water Transportation	370	365	355	348	349	356
Communications Equipment and Electronic Components	345	339	326	318	318	323
Aerospace	260	266	263	260	264	273
Instruments						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	<b>996</b>	<b>1,005</b>	<b>1,029</b>	<b>1,048</b>	<b>1,102</b>	<b>1,188</b>
Research Labs, Computer and Engineering Services	326	326	329	324	328	350
Wholesale Trade	246	244	243	236	237	250
Other Chemicals	216	215	216	212	212	228
Communications Services	213	212	214	205	209	223
Finance and Insurance						

**New Mexico Summary**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Total Direct Expenditures (Purchases and Pay)	2,353	2,320	2,277	2,241	2,212	2,253
Indirect Defense Purchases Resulting from Direct Purchases	930	940	946	922	922	994
Indirect Defense Purchases Resulting from Direct Pay	631	615	604	602	600	601
Total Nondefense Expenditures	81,558	82,872	84,892	86,550	88,376	90,450
Total Output	85,473	86,747	88,719	90,314	92,110	94,299
Government Industry Compensation	1,345	1,329	1,308	1,303	1,293	1,290
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Research Labs, Computer and Engineering Services	456	448	432	421	414	418
Construction	142	138	134	136	139	139
Finance and Insurance	58	58	58	55	48	64
Aerospace	57	57	57	57	58	60
Communications Equipment and Electronic Components	55	54	55	55	55	57
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Research Labs, Computer and Engineering Services	337	339	337	329	331	345
Communications Equipment and Electronic Components	114	123	130	136	144	156
Crude Oil	114	114	114	103	92	114
Wholesale Trade	31	31	31	31	31	33
Petroleum Refining	28	28	28	26	25	30

## New York Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	7,984	7,924	7,871	7,728	7,781	8,026
Indirect Defense Purchases Resulting from Direct Purchases	5,933	5,915	5,936	5,782	5,862	6,195
Indirect Defense Purchases Resulting from Direct Pay	2,580	2,499	2,428	2,403	2,370	2,349
Total Nondefense Expenditures	934,297	941,637	958,086	972,118	986,403	1,001,466
Total Output	950,795	957,976	974,324	988,034	1,002,419	1,018,039
Government Industry Compensation	1,955	1,929	1,898	1,890	1,876	1,871

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

Total Direct Expenditures (Purchases and Pay)						
Research Labs, Computer and Engineering Services	1,083	1,064	1,035	1,028	1,033	1,061
Aerospace	1,011	1,021	1,030	1,052	1,088	1,136
Communications Equipment and Electronic Components	968	953	925	907	906	925
Instruments	729	774	794	801	828	871
Metal Products	424	421	441	457	474	498
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Research Labs, Computer and Engineering Services	801	804	809	804	828	875
Finance and Insurance	743	744	757	728	744	798
Wholesale Trade	522	519	522	512	516	550
Communications Equipment and Electronic Components	366	369	375	384	396	422
Instruments	291	295	291	286	287	294

## North Carolina Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Total Direct Expenditures (Purchases and Pay)	6,413	6,323	6,226	6,125	6,112	6,165
Indirect Defense Purchases Resulting from Direct Purchases	2,700	2,701	2,723	2,641	2,697	2,862
Indirect Defense Purchases Resulting from Direct Pay	2,392	2,334	2,295	2,294	2,288	2,293
Total Nondefense Expenditures	415,315	421,368	432,184	442,055	451,485	461,379
Total Output	426,828	432,736	443,439	453,126	462,591	472,707
Government Industry Compensation	4,717	4,671	4,600	4,585	4,548	4,536
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Construction	267	261	255	257	265	267
Research Labs, Computer and Engineering Services	242	237	229	226	222	226
Instruments	104	104	103	103	103	105
Wholesale Trade	105	104	100	94	89	96
Trucking and Highway Passenger Transit	85	83	85	56	70	72
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Wholesale Trade	208	210	214	212	216	231
Textiles (Except Knitting)	183	179	178	155	165	175
Research Labs, Computer and Engineering Services	179	179	179	177	178	186
Communications Equipment and Electronic Components	174	173	172	174	178	189
Other Chemicals	145	146	148	146	148	158

## North Dakota Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	706	697	689	685	689	698
Indirect Defense Purchases Resulting from Direct Purchases	216	215	215	206	205	222
Indirect Defense Purchases Resulting from Direct Pay	249	242	238	237	236	236
Total Nondfense Expenditures	30,850	31,114	31,775	32,343	32,934	33,516
Total Output	32,021	32,267	32,917	33,472	34,064	34,672
Government Industry Compensation	475	470	462	461	456	455
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
Total Direct Expenditures (Purchases and Pay)	63	61	60	61	62	62
Construction	62	61	63	67	71	76
Communications Services	27	27	27	28	28	29
Electric Utilities	13	12	13	8	10	11
Trucking and Highway Passenger Transit	12	12	12	9	10	11
Apparel and Household Textiles						
Indirect Defense Purchases Resulting from Direct Purchases	34	34	35	34	35	37
Electric Utilities	32	32	31	28	25	31
Crude Oil	23	23	23	23	23	24
Wholesale Trade	14	13	13	13	13	14
Gas Utilities	12	12	12	11	11	12
Finance and Insurance						

## Ohio Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	6,662	6,544	6,536	6,479	6,494	6,722
Indirect Defense Purchases Resulting from Direct Purchases	5,059	5,045	5,067	4,960	4,999	5,290
Indirect Defense Purchases Resulting from Direct Pay	2,177	2,117	2,070	2,059	2,042	2,036
Total Nondefense Expenditures	666,920	673,028	688,267	701,366	714,267	726,993
Total Output	680,820	686,736	701,943	714,867	727,805	741,042
Government Industry Compensation	2,925	2,872	2,820	2,802	2,785	2,778

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

Total Direct Expenditures (Purchases and Pay)	1998	1999	2000	2001	2002	2003
Research Labs, Computer and Engineering Services	982	967	939	925	913	931
Aerospace	840	850	863	885	915	957
Other Transportation Equipment	350	340	358	387	427	475
Trucking and Highway Passenger Transit	170	166	168	112	139	143
Other Nonelectrical Machinery	150	162	168	171	175	186
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Research Labs, Computer and Engineering Services	726	731	734	723	732	768
Ferrous Metals	422	413	417	420	423	435
Metal Products	393	393	403	407	415	436
Wholesale Trade	323	322	325	319	321	340
Other Chemicals	262	264	265	260	264	282

## Oklahoma Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	3,430	3,388	3,342	3,305	3,285	3,345
Indirect Defense Purchases Resulting from Direct Purchases	1,857	1,852	1,856	1,775	1,749	1,930
Indirect Defense Purchases Resulting from Direct Pay	1,145	1,114	1,093	1,090	1,083	1,082
Total Nondefense Expenditures	178,677	180,086	183,597	186,820	190,100	193,305
Total Output	185,110	186,441	189,889	192,991	196,219	199,663
Government Industry Compensation	2,529	2,494	2,452	2,441	2,423	2,417
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
Total Direct Expenditures (Purchases and Pay)	219	217	213	213	211	218
Research Labs, Computer and Engineering Services	170	165	161	164	167	167
Construction	147	148	152	158	163	170
Aerospace	66	67	66	61	54	73
Petroleum Refining	58	58	58	53	47	63
Fuel Oil						
Indirect Defense Purchases Resulting from Direct Purchases	410	405	398	362	326	403
Crude Oil	241	242	245	232	241	255
Automobile Repairs	162	164	166	167	169	180
Research Labs, Computer and Engineering Services	127	126	125	114	106	127
Petroleum Refining	74	74	75	74	75	80
Wholesale Trade						

## Oregon Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	763	752	742	736	732	737
Indirect Defense Purchases Resulting from Direct Purchases	1,047	1,061	1,077	1,064	1,087	1,160
Indirect Defense Purchases Resulting from Direct Pay	574	559	548	547	544	544
Total Nondefense Expenditures	174,216	176,525	180,828	184,629	188,373	192,246
Total Output	176,605	178,903	183,202	186,982	190,741	194,692
Government Industry Compensation	567	561	555	553	550	548

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

### Total Direct Expenditures (Purchases and Pay)

Construction	31	29	28	28	29	29
Research Labs, Computer and Engineering Services	25	25	24	23	22	22
Computers	22	22	21	20	18	18
Instruments	16	17	17	17	18	18
Communications Equipment and Electronic Components	12	12	12	12	12	12
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Communications Equipment and Electronic Components	239	252	263	273	289	311
Wholesale Trade	98	98	100	99	100	108
Finance and Insurance	69	69	69	66	67	71
Other Nonferrous Metals	62	63	64	65	67	70
Lumber	46	45	45	44	44	46

**Pennsylvania Summary**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	6,640	6,521	6,448	6,349	6,283	6,459
Indirect Defense Purchases Resulting from Direct Purchases	4,832	4,809	4,826	4,699	4,735	5,023
Indirect Defense Purchases Resulting from Direct Pay	2,212	2,155	2,108	2,100	2,085	2,081
Total Nondefense Expenditures	661,700	667,232	679,688	690,805	701,643	712,839
Total Output	675,386	680,717	693,072	703,955	714,748	726,402
Government Industry Compensation	2,824	2,771	2,723	2,704	2,689	2,682
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Research Labs, Computer and Engineering Services	889	873	841	822	808	818
Metal Products	861	845	880	908	933	976
Aerospace	268	273	279	288	300	316
Fuel Oil	248	229	199	164	90	99
Medical Instruments and Supplies	217	228	225	213	218	228
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Research Labs, Computer and Engineering Services	657	660	657	642	648	674
Ferrous Metals	404	396	399	401	403	415
Wholesale Trade	315	315	319	314	318	339
Petroleum Refining	301	296	291	263	244	291
Communications Equipment and Electronic Components	267	270	278	287	298	316

## Rhode Island Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	1,655	1,668	1,645	1,611	1,609	1,650
Indirect Defense Purchases Resulting from Direct Purchases	443	445	452	448	459	489
Indirect Defense Purchases Resulting from Direct Pay	277	270	265	264	263	263
Total Nondefense Expenditures	51,576	52,129	53,175	54,048	54,913	55,777
Total Output	53,952	54,513	55,537	56,372	57,245	58,180
Government Industry Compensation	530	522	512	510	506	505

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

Total Direct Expenditures (Purchases and Pay)	500	532	526	513	519	542
Medical Instruments and Supplies	251	249	247	251	255	266
Research Labs, Computer and Engineering Services	100	105	107	107	110	115
Instruments	75	69	62	55	39	38
Communications Services	45	44	43	44	44	44
Construction						
Indirect Defense Purchases Resulting from Direct Purchases						
Research Labs, Computer and Engineering Services	186	188	193	196	204	220
Other Nonferrous Metals	29	29	30	30	31	32
Wholesale Trade	25	25	25	24	25	26
Finance and Insurance	21	21	21	20	20	22
Metal Products	19	19	19	19	20	21

## South Carolina Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)						
Indirect Defense Purchases Resulting from Direct Purchases	4,082	4,026	3,980	3,816	3,845	3,912
Indirect Defense Purchases Resulting from Direct Pay	1,500	1,496	1,503	1,461	1,489	1,579
Total Nondefense Expenditures	1,240	1,209	1,187	1,186	1,181	1,182
Total Output	210,230	213,341	218,327	223,244	227,765	232,536
Government Industry Compensation	217,052	220,072	224,999	229,709	234,283	239,211
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
Total Direct Expenditures (Purchases and Pay)						
Railroads	357	349	353	233	290	297
Research Labs, Computer and Engineering Services	236	229	220	218	215	218
Construction	173	168	164	167	170	170
Finance and Insurance	91	92	92	86	76	101
Aerospace	68	71	74	77	82	87
Indirect Defense Purchases Resulting from Direct Purchases						
Research Labs, Computer and Engineering Services	175	173	172	170	172	180
Other Chemicals	164	165	166	164	166	177
Textiles (Except Knitting)	132	129	128	111	118	126
Wholesale Trade	75	75	77	75	76	81
Communications Equipment and Electronic Components	69	70	71	73	77	83

**South Dakota Summary**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Indirect Defense Purchases Resulting from Direct Purchases	755	758	847	854	815	852
Indirect Defense Purchases Resulting from Direct Pay	1,826	2,111	2,435	2,499	2,356	2,567
Total Nondefense Expenditures	183	178	175	174	173	173
Total Output	34,860	35,328	36,253	37,049	37,828	38,634
Government Industry Compensation	37,625	38,375	39,710	40,576	41,172	42,225
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Real Estate	334	345	438	454	418	449
Construction	25	25	24	25	25	25
Medical Instruments and Supplies	17	17	17	12	14	14
Research Labs, Computer and Engineering Services	16	16	15	15	15	15
Communications Equipment and Electronic Components	12	13	13	13	13	14
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Real Estate	1,559	1,843	2,164	2,231	2,091	2,286
Communications Equipment and Electronic Components	39	39	40	42	44	47
Automobile Repairs	32	30	27	27	21	21
Wholesale Trade	21	21	21	21	21	22
Non-Competitive Imports	16	18	21	21	20	22

## Tennessee Summary

Rounded to Millions of 1999 dollars.

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	3,172	3,118	3,089	2,862	2,923	2,974
Indirect Defense Purchases Resulting from Direct Purchases	1,909	1,914	1,923	1,864	1,888	1,991
Indirect Defense Purchases Resulting from Direct Pay	1,004	981	962	961	955	956
Total Nondefense Expenditures	296,932	301,108	309,552	316,869	323,974	330,943
Total Output	303,033	307,138	315,548	322,575	329,758	336,880
Government Industry Compensation	1,243	1,232	1,219	1,214	1,207	1,204

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

Total Direct Expenditures (Purchases and Pay)	749	741	748	601	673	688
Air Transportation	413	403	383	368	359	358
Research Labs, Computer and Engineering Services	201	195	193	148	163	176
Apparel and Household Textiles	102	94	99	101	99	102
Metal Products	86	85	86	85	81	90
Other Chemicals						
Indirect Defense Purchases Resulting from Direct Purchases	305	305	299	288	288	295
Research Labs, Computer and Engineering Services	155	155	157	155	157	168
Wholesale Trade	153	153	154	151	152	162
Other Chemicals	130	131	135	137	140	147
Metal Products	104	105	106	108	111	116
Other Nonferrous Metals						

## Texas Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	20,515	20,324	20,130	19,767	19,666	20,462
Indirect Defense Purchases Resulting from Direct Purchases	11,609	11,635	11,663	11,220	11,141	12,202
Indirect Defense Purchases Resulting from Direct Pay	5,265	5,132	5,038	5,027	5,000	5,001
Total Nondefense Expenditures	1,067,257	1,080,338	1,103,639	1,124,325	1,144,784	1,166,032
Total Output	1,104,646	1,117,430	1,140,473	1,160,342	1,180,592	1,203,699
Government Industry Compensation	9,578	9,473	9,334	9,297	9,230	9,206

### LARGEST PURCHASES BY INDUSTRIAL SECTORS

<b>Total Direct Expenditures (Purchases and Pay)</b>	3,002	3,023	3,039	3,090	3,178	3,308
Aerospace	2,100	2,064	1,999	1,969	1,955	1,992
Research Labs, Computer and Engineering Services	850	858	856	785	697	936
Petroleum Refining	759	767	764	700	621	835
Fuel Oil	720	696	680	689	703	703
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Crude Oil	1,887	1,870	1,845	1,680	1,511	1,874
Research Labs, Computer and Engineering Services	1,552	1,561	1,562	1,539	1,567	1,643
Petroleum Refining	1,058	1,052	1,044	949	883	1,057
Communications Equipment and Electronic Components	877	917	951	985	1,031	1,108
Wholesale Trade	516	516	522	514	520	554

## Utah Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	2,002	1,956	1,919	1,887	1,872	1,926
Indirect Defense Purchases Resulting from Direct Purchases	1,052	1,055	1,055	1,032	1,044	1,106
Indirect Defense Purchases Resulting from Direct Pay	574	559	548	547	544	543
Total Nondefense Expenditures	124,035	125,801	128,283	130,683	133,111	135,543
Total Output	127,666	129,373	131,808	134,151	136,572	139,120
Government Industry Compensation	1,142	1,120	1,100	1,093	1,086	1,083

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

### Total Direct Expenditures (Purchases and Pay)

Research Labs, Computer and Engineering Services	277	267	256	254	255	259
Metalworking Machinery	93	84	81	76	76	78
Construction	78	76	74	75	77	77
Petroleum Refining	62	63	63	57	51	68
Fuel Oil	57	58	57	53	47	63

### Indirect Defense Purchases Resulting from Direct Purchases

Research Labs, Computer and Engineering Services	205	202	200	199	204	213
Aerospace	126	131	127	123	123	124
Communications Equipment and Electronic Components	75	78	81	82	85	91
Wholesale Trade	55	55	56	55	56	60
Petroleum Refining	54	54	54	49	46	55

## Vermont Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Total Direct Expenditures	192	192	192	192	194	198
Indirect Defense Purchases Resulting from Direct Purchases	251	256	262	262	268	285
Indirect Defense Purchases Resulting from Direct Pay	115	113	111	110	110	110
Total Nondefense Expenditures	29,652	30,222	31,086	31,858	32,603	33,384
Total Output	30,211	30,784	31,650	32,423	33,175	33,978
Government Industry Compensation	104	103	102	102	101	101
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Metal Products	25	26	27	29	31	33
Aerospace	20	20	21	21	22	23
Research Labs, Computer and Engineering Services	20	20	19	18	18	17
Electric Industrial Appliances and Distribution Equipment	4	4	4	4	4	5
Construction	4	4	4	4	4	4
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>						
Communications Equipment and Electronic Components	94	100	105	109	114	122
Aerospace	16	16	16	16	15	16
Research Labs, Computer and Engineering Services	15	15	15	14	14	14
Wholesale Trade	15	15	15	15	15	16
Finance and Insurance	10	10	10	9	10	10

## Virginia Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	24,883	24,456	24,092	23,421	23,427	23,799
Indirect Defense Purchases Resulting from Direct Purchases	6,692	6,710	6,745	6,495	6,647	7,011
Indirect Defense Purchases Resulting from Direct Pay	5,055	4,924	4,839	4,833	4,812	4,816
Total Nondfense Expenditures	536,564	546,169	558,303	569,707	580,000	590,576
Total Output	573,151	582,213	593,957	604,435	614,868	626,185
Government Industry Compensation	13,420	13,220	12,990	12,926	12,832	12,799

### LARGEST PURCHASES BY INDUSTRIAL SECTORS

<b>Total Direct Expenditures (Purchases and Pay)</b>	4,636	4,570	4,459	4,430	4,374	4,483
Research Labs, Computer and Engineering Services	1,065	1,040	1,030	1,048	1,038	1,044
Ships and Boats	1,051	1,026	1,030	700	854	872
Nonautomotive Repair Services, Hotels, and Lodging	742	740	747	746	726	829
Communications Services	590	584	582	585	574	598
Computers						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	3,427	3,455	3,484	3,462	3,505	3,698
Research Labs, Computer and Engineering Services	936	925	929	787	871	912
Nonautomotive Repair Services, Hotels, and Lodging	256	243	230	217	222	234
Real Estate	151	152	154	152	154	164
Wholesale Trade	146	147	148	147	148	159
Communications Services						

## Washington Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
<b>Total Direct Expenditures (Purchases and Pay)</b>						
Total Direct Expenditures (Purchases and Pay)	7,221	7,128	7,018	6,901	6,851	7,044
Indirect Defense Purchases Resulting from Direct Purchases	2,928	2,976	2,989	2,922	2,941	3,097
Indirect Defense Purchases Resulting from Direct Pay	2,029	1,979	1,944	1,941	1,931	1,932
Total Nondefense Expenditures	315,942	320,823	327,864	334,249	340,414	346,969
Total Output	328,147	332,933	339,843	346,036	352,156	359,059
Government Industry Compensation	4,420	4,365	4,296	4,277	4,247	4,236

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

### Total Direct Expenditures (Purchases and Pay)

Research Labs, Computer and Engineering Services	600	588	575	577	579	597
Aerospace	431	435	437	445	459	478
Communications Equipment and Electronic Components	307	306	296	290	292	299
Petroleum Refining	238	240	238	218	191	257
Construction	235	227	220	223	229	228

### Indirect Defense Purchases Resulting from Direct Purchases

Aerospace	913	959	961	947	948	963
Research Labs, Computer and Engineering Services	444	445	450	451	464	492
Wholesale Trade	165	166	169	167	170	181
Petroleum Refining	115	115	115	105	99	119
Other Nonferrous Metals	111	111	112	114	117	123

**West Virginia Summary**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)						
Total Direct Expenditures (Purchases and Pay)	433	424	417	409	409	414
Indirect Defense Purchases Resulting from Direct Purchases	594	591	593	579	580	617
Indirect Defense Purchases Resulting from Direct Pay	275	267	261	259	257	256
Total Nondefense Expenditures	80,693	81,363	82,877	84,303	85,687	87,126
Total Output	81,995	82,645	84,147	85,550	86,933	88,414
Government Industry Compensation	285	282	278	277	275	275
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
Total Direct Expenditures (Purchases and Pay)						
Construction	63	59	57	58	60	60
Medical Instruments and Supplies	21	20	20	14	17	17
Research Labs, Computer and Engineering Services	15	15	14	14	14	14
Wholesale Trade	12	12	12	11	10	13
Aerospace	9	8	8	8	8	9
Indirect Defense Purchases Resulting from Direct Purchases						
Coal Mining	80	80	81	80	80	83
Other Chemicals	76	76	76	74	75	80
Ferrous Metals	70	69	70	71	72	75
Other Nonferrous Metals	40	40	41	42	43	46
Crude Oil	38	37	37	33	30	36

## Wisconsin Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)						
Total Direct Expenditures Resulting from Direct Purchases	1,078	1,018	1,045	1,030	1,016	1,054
Indirect Defense Purchases Resulting from Direct Purchases	1,811	1,807	1,819	1,777	1,796	1,899
Indirect Defense Purchases Resulting from Direct Pay	784	767	754	754	751	751
Total Nondefense Expenditures	314,090	317,129	324,404	330,778	336,812	342,901
Total Output	317,766	320,725	328,027	334,344	340,378	346,609
Government Industry Compensation	488	482	476	474	471	470
<b>LARGEST PURCHASES BY INDUSTRIAL SECTORS</b>						
Total Direct Expenditures (Purchases and Pay)						
Metal Products	79	76	80	83	84	87
Research Labs, Computer and Engineering Services	64	63	62	61	61	62
Construction	48	46	45	45	47	46
Other Nonelectrical Machinery	39	39	39	39	37	42
Food and Tobacco	39	39	38	35	29	39
Indirect Defense Purchases Resulting from Direct Purchases						
Metal Products	172	172	176	177	180	189
Wholesale Trade	149	150	152	150	152	163
Paper	149	148	146	141	141	150
Finance and Insurance	122	121	121	116	118	125
Printing and Publishing	98	97	97	94	95	99

## Wyoming Summary

Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	351	348	343	338	332	345
Indirect Defense Purchases Resulting from Direct Purchases	276	274	273	257	248	280
Indirect Defense Purchases Resulting from Direct Pay	151	147	145	144	143	143
Total Nondefense Expenditures	25,601	25,743	26,204	26,609	27,034	27,463
Total Output	26,380	26,513	26,965	27,347	27,757	28,231
Government Industry Compensation	258	255	251	251	249	248

## LARGEST PURCHASES BY INDUSTRIAL SECTORS

<b>Total Direct Expenditures (Purchases and Pay)</b>	24	24	24	22	20	26
Petroleum Refining	23	23	22	23	23	23
Construction	22	22	22	20	18	24
Fuel Oil	5	5	5	6	6	6
Electric Utilities	5	5	5	5	5	5
Research Labs, Computer and Engineering Services	5	5	5	5	5	5
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	<b>87</b>	<b>86</b>	<b>85</b>	<b>78</b>	<b>70</b>	<b>86</b>
Crude Oil	42	42	42	38	36	43
Petroleum Refining	21	21	21	21	21	22
Coal Mining	9	9	9	9	9	9
Natural Gas	9	9	9	9	9	9
Wholesale Trade					10	

**Entire United States Summary**  
Rounded to Millions of 1999 dollars

	1998	1999	2000	2001	2002	2003
<b>AGGREGATE MEASURES</b>						
Total Direct Expenditures (Purchases and Pay)	267,400	264,326	261,929	258,099	258,416	265,623
Indirect Defense Purchases Resulting from Direct Purchases	126,147	126,347	126,888	123,464	124,433	132,512
Indirect Defense Purchases Resulting from Direct Pay	68,223	66,476	65,176	65,000	64,612	64,566
Total Nondfense Expenditures	14,883,695	15,062,923	15,395,383	15,691,073	15,980,062	16,278,203
Total Output	15,345,465	15,520,072	15,849,377	16,137,636	16,427,522	16,740,904
Government Industry Compensation	116,380	114,876	113,074	112,563	111,771	111,480

**LARGEST PURCHASES BY INDUSTRIAL SECTORS**

<b>Total Direct Expenditures (Purchases and Pay)</b>	25,056	34,450	33,439	33,050	32,801	33,499
Research Labs, Computer and Engineering Services	30,309	30,485	30,484	30,860	31,722	32,971
Aerospace	8,387	8,184	8,140	8,305	8,229	8,279
Ships and Boats	7,865	7,810	7,700	7,656	7,685	7,902
Communications Equipment and Electronic Components	7,566	7,302	7,112	7,207	7,371	7,364
Construction						
<b>Indirect Defense Purchases Resulting from Direct Purchases</b>	25,912	26,046	26,130	25,830	26,285	27,631
Research Labs, Computer and Engineering Services	7,278	7,290	7,384	7,280	7,371	7,868
Wholesale Trade	6,764	6,897	7,027	7,206	7,474	7,981
Communications Equipment and Electronic Components	5,687	5,672	5,700	5,450	5,540	5,907
Finance and Insurance	5,634	5,598	5,585	5,394	5,402	5,750
Real Estate						

## **APPENDIX**

## Mapping from Industries to Industrial Sectors, with SIC Codes

Ind #	Industry Title	SIC Classification		State Level Industrial Sector Title
		Classification Code(s)	sec #	
1	Dairy Farm Products	241		1 Agriculture, Forestry, and Fisheries
2	Poultry and Eggs	250	-254	
3	Meat Animals and Other Livestock	210	270	
4	Cotton	131		
5	Grains	111	112 115 118	pt 119 pt 139
6	Tobacco	132		
7	Fruit, Vegetables, and Other Crops	pt 119	133 134	pt 139 170 173 179
8	Forestry Products	800	-850	970
9	Fishery Products	910		
10	Agriculture, Forestry, and Fishery Services	pt 180	254 700	780 850 920
11	Iron Ores	1010	1060	2 Iron Ores
12	Copper Ore	1020		
13	Other Nonferrous Ores	1030	1040 1050	1080 1090
14	Coal Mining	1200		
15	Natural Gas Extraction	1312		
16	Crude Oil Extraction	1311	1320 1380	
17	Stone and Clay Quarrying and Mining	1410	1420 1440	1450 1480 1490
18	Chemical and Fertilizer Minerals Mining	1470		
19	New Construction	1600		
20	Maintenance Construction	1500		
21	Guided Missiles and Space Vehicles	3761		
22	Ammunition, Except Small Arms	3483		
23	Tanks and Tank Components	3795		
24	Small Arms	3484		
25	Small Arms Ammunition	3482		
26	Other Ordnance and Accessories	3489		
27	Meat Packing Plants, Sausage and Other Prepared Meats	2011	2013	
28	Poultry Slaughtering and Processing	2015		
29	Dairy Products, Except Fluid Milk	2021	2022 2023	2024
30	Fluid Milk	2026		
31	Fish and Seafoods	2091	2092	
32	Preserved Fruits and Vegetables, Frozen Bakery Products	2032	2033 2034	2035 2037 2038
33	Flour, Cereals, and Other Grain Mill Products	2041	2043 2045	
34	Prepared Animal Feeds	2047	2048	
35	Rice Milling	2044		
36	Wet Corn Milling	2046		
37	Bakery Products	2051	2052 2053	

## Mapping from Industries to Industrial Sectors, with SIC Codes

National		SIC Classification		State Level	
Ind #	Industry Title	Classification Code(s)	sec #	Industrial Sector Title	
38	Sugar	2061 2062 2063			
39	Confectionery, Chocolate Products, and Roasted Nuts	2064 2066 2067 2068			
40	Beer, Malt Beverages, and Malt	2082 2083			
41	Wines, Brandy, and Brandy Spirits	2084			
42	Distilled and Blended Liquors	2085			
43	Soft Drinks and Flavorings	2086 2087			
44	Vegetable Oil Mills	2074, 2075, 2076			
45	Animal and Marine Fats and Oils	2077			
46	Shortening, Table Oils, and Edible Fats	2079			
47	Roasted Coffee	2095			
48	Miscellaneous Food Preparations	2096 2097 2098 2099			
49	Cigarettes	2110			
50	Cigars	2120			
51	Chewing and Smoking Tobacco and Snuff	2130			
52	Tobacco Stemming and Redrying	2140			
53	Broadwoven Fabric Mills	2210 2220 2230 2261 2262			
54	Narrow Fabric Mills	2240			
55	Yarn and Thread Mills, Textile Finishers	2269 2281 2282 2284			
56	Carpets and Rugs	2270			
57	Miscellaneous Textile Goods	2290			
58	Knitting Mills	2251 2252 2253 2254 2257 2258 2259			
59	Apparel	2300-2390			
60	Household Textile Products	2391 2392			
61	Miscellaneous Fabricated Textile Products	2393 2394 2395 2396 2397 2399 39996			
62	Logging Camps and Contractors	2411			
63	Sawmills and Planing Mills	2421 2426 2429			
64	Millwork and Wood Kitchen Cabinets	2431 2434			
65	Veneer and Plywood	2435 2436			
66	Structural Wood Members, n.e.c.	2439			
67	Prefabricated Wood Buildings and Components	2452			
68	Wood Preserving	2491			
69	Wood Pallets and Skids	2448			
70	Wood Containers	2441 2449			
71	Particleboard and Wood Products, n.e.c.	2493 2499			
72	Household Furniture	2511 2512 2514 2515 2517 2519			
73	Office Furniture	2521 2522			
74	Public Building and Related Furniture	2531			
75	Partitions and Fixtures	2541 2542			
76	Furniture and Fixtures, n.e.c.	2591 2599			
77	Pulp Mills	2610			
				13	Paper
				23	Furniture

## Mapping from Industries to Industrial Sectors, with SIC Codes

National		SIC Classification		State Level	
Ind #	Industry Title	Classification Code(s)	Sec #	Industrial Sector	Title
78	Paper Mills, Including Building Paper	2620			
79	Paperboard Mills	2630			
80	Bags, Except Textile Bags	2673	2674		
81	Paperboard Containers and Boxes	2650			
82	Paper Coating and Glazing, Die Cut Paper	2671	2672	2675	
83	Envelopes and Stationery	2677	2678		
84	Converted Paper Products, n.e.c.	2679			
85	Sanitary Paper Products	2676			
86	Newspaper Publishing and Printing	2710			
87	Periodical Publishing and Printing	2720			
88	Book Publishing and Printing	2731	2732		
89	Miscellaneous Publishing	2740			
90	Commercial Printing	2752	2754	2759	
91	Greeting Card Publishing	2770			
92	Printing Trade Services	2791	2796		
93	Blankbooks and Bookbinding	2782	2789		
94	Manifold Business Forms	2761			
95	Industrial Inorganic Chemicals	2812	2813	2816	2819, excl. 28195
96	Industrial Organic Chemicals	2865	2869		
97	Gum and Wood Chemicals	2861			
98	Agricultural Chemicals	2873	2874	2875	2879
99	Adhesives and Sealants	2891			
100	Explosives	2892			
101	Chemical Preparations, n.e.c.	2893	2895	2899	
102	Plastics Materials and Resins	2821			
103	Synthetic Rubber	2822			
104	Cellulosic Man-Made Fibers	2823			
105	Synthetic Organic Fibers, Except Cellulosic	2824			
106	Drugs	2830			
107	Soaps and Cleaners	2841	2842	2843	
108	Perfumes, Cosmetics, and Other Toilet Preparations	2844			
109	Paints, Varnishes, and Related Products	2850			
110	Petroleum Refining, Except Fuel Oil	2911	2917	2992	2999
111	Fuel Oil	2915			
112	Asphalt Paving and Coatings	2951	2952		
113	Tires and Inner Tubes	3010			
114	Fabricated Rubber Products, n.e.c.	3060			
115	Rubber and Plastics Footwear	3020			

## Mapping from Industries to Industrial Sectors, with SIC Codes

National		SIC Classification		State Level	
Ind #	Industry Title	Classification Code(s)	sec #	Industrial Sector Title	
116	Rubber and Plastics Hose and Belting	3052	19	Rubber Products	
117	Gaskets, Packing, and Sealing Devices	3053			
118	Miscellaneous Plastic Products	3080	20	Plastic Products	
119	Leather Tanning and Finishing	3110	21	Shoes and Leather	
120	Boot and Shoe Cut Stock and Findings	3130			
121	Footwear, Except Rubber	3142 3143 3144 3149			
122	Other Leather Goods	3150 3160 3171 3172 3199			
123	Glass and Glass Products, n.e.c.	3210 3229 3230	24	Stone, Clay, and Glass	
124	Glass Containers	3221			
125	Cement, Hydraulic	3240			
126	Structural Clay Products	3251 3253 3255 3259			
127	Pottery and Related Products	3261 3262 3263 3264 3269			
128	Concrete and Concrete Products	3271 3272 3273			
129	Lime	3274			
130	Gypsum Products	3275			
131	Cut Stone and Stone Products	3280			
132	Nonmetallic Mineral Products, n.e.c.	3291 3292 3295 3296 3297 3299			
133	Steel Mills, Blast Furnaces, and Rolling and Finishing Mills	3312 3313 3315 3316 3317	25	Ferrous Metals	
134	Iron and Steel Foundries	3320			
135	Iron and Steel Forgings	3462			
136	Miscellaneous Primary Metal Products	3398 3399			
137	Primary Smelting and Refining of Copper	3331, pt. 3341	26	Copper	
138	Primary Smelting and Refining of Aluminum	3334 28195 pt. 3341	27	Other Nonferrous Metals	
139	Lead, Zinc, and Other Primary Nonferrous Metals	3339			
140	Copper Rolling and Drawing Products	3351	26	Copper	
141	Aluminum Rolling and Drawing Products	3353 3354 3355	27	Other Nonferrous Metals	
142	Other Nonferrous Rolling and Drawing Products, and Nonferrous Wire	3356 3357			
143	Aluminum Foundries and Castings	3363 3365			
144	Copper Foundries	3366	26	Copper	
145	Nonferrous Castings and forgings	3364 3369 3463	27	Other Nonferrous Metals	
146	Metal Cans	3411	28	Metal Products	
147	Metal Shipping Barrels, Drums, Kegs, and Pails	3412			
148	Metal Sanitary Ware and Plumbing Fixtures	3431 3432			
149	Heating Equipment, Except Electrical and Warm Air	3433			
150	Fabricated Structural Metal Products	3441 3442			
151	Fabricated Plate Work (Boiler Shops)	3443			

## Mapping from Industries to Industrial Sectors, with SIC Codes

Ind #	Industry Title	SIC Classification		State Level	
		Classification Code(s)	sec #	Industrial Sector	Title
152	Sheet Metal and Other Metal Work	3444	3446 3448 3449	28	Metal Products
153	Screw Machine Products, Bolts, and Nuts	3450			
154	Automotive Stampings	3465			
155	Crowns and Closures	3466			
156	Metal Stampings, n.e.c.	3469			
157	Cutlery and Hand Tools	3421	3423 3425		
158	Hardware, n.e.c.	3429			
159	Metal Plating, Polishing, and Coating	3471	3479		
160	Metal Foil and Leaf	3497			
161	Miscellaneous Fabricated Wire Products	3495	3496		
162	Steel Springs, Except Wire	3493			
163	Pipes, Valves, and Pipe Fittings	3491	3492 3494 3498		
164	Fabricated Metal Products, n.e.c.	3499			
165	Steam, Gas, and Hydraulic Turbines	3511			
166	Internal Combustion Engines, n.e.c.	3519			
167	Farm Machinery and Equipment	3523		30	Agricultural Machinery
168	Garden Tractors and Lawn and Garden Equipment	3524			
169	Construction Machinery and Equipment	3531		31	Construction, Mining, and Oil Field Equipment
170	Mining Machinery and Equipment, Except Oil and Gas Machinery	3532			
171	Oil and Gas Field Machinery	3533			
172	Elevators and Moving Stairways	3534		34	Other Nonelectrical Machinery
173	Conveyors, Hoists, and Cranes	3535	3536		
174	Industrial Trucks, Tractors, Trailers, and Stackers	3537			
175	Machine Tools, Metal Cutting Types	3541		32	Metalworking Machinery
176	Machine Tools, Metal Forming Types	3542			
177	Special Dies, Jigs, Molds, and Cutting Tools	3544	3545		
178	Power-Driven Hand Tools	3546			
179	Rolling Mill Machinery and Equipment	3547			
180	Metalworking Machinery, n.e.c.	3549			
181	Food Products Machinery	3556		33	Special Industry Machinery
182	Textile Machinery	3552			
183	Woodworking Machinery	3553			
184	Paper Industries Machinery	3554			
185	Printing Trades Machinery and Equipment	3555			
186	Special Industrial Machinery, n.e.c.	3559			
187	Pumps and Compressors	3561	3563		
188	Ball and Roller Bearings	3562			
189	Blowers and Exhaust and Ventilation Fans	3564		34	Other Nonelectrical Machinery

## Mapping from Industries to Industrial Sectors, with SIC Codes

National		SIC Classification		State Level	
Ind #	Industry Title	Classification Code(s)	sec #	Industrial Sector Title	
190	Industrial Patterns	3543			
191	Packaging Machinery and General Industrial Machinery, n.c.c.	3565 3569	34	Other Nonelectrical Machinery	
192	Mechanical Power Transmission Equipment	3566 3568			
193	Industrial Process Furnaces and Ovens	3567			
194	Carburetors, Pistons, Piston Rings, and Valves	3592			
195	Fluid Power Equipment	3593 3594			
196	Scales and Balances	3596	36	Other Office Equipment	
197	Industrial and Commercial Machinery, n.e.c.	3599	34	Other Nonelectrical Machinery	
198	Electronic Computers	3571	35	Computers	
199	Computer Peripheral Equipment	3572 3575 3577			
200	Calculators and Accounting Machinery	3578			
201	Office Machines and Typewriters	3579	36	Other Office Equipment	
202	Automatic Merchandising Equipment	3581	37	Service Industry Machinery	
203	Commercial Laundry, Dry Cleaning, and Pressing Machines	3582			
204	Air Conditioning, Heating, and Refrigeration Equipment	3585			
205	Measuring and Dispensing Pumps	3586			
206	Service Industry Machinery, n.e.c.	3589			
207	Instruments to Measure Electricity	3825	39	Electric Industrial Appliances and Distribution Equipment	
208	Transformers	3612			
209	Switchgear and Switchboard Apparatus	3613			
210	Motors and Generators	3621			
211	Relays and Industrial Controls	3625			
212	Welding and Soldering Equipment	3548			
213	Electrical Industrial Apparatus	3624 3629			
214	Major Household Appliances	3631 3632 3633			
215	Other Household Appliances	3634 3635 3639	40	Household Appliances	
216	Electric Lamps, Light Fixtures, and Wiring	3641 3643 3644 3645 3646 3647 3648	41	Other Electrical Equipment	
217	Household Audio and Video Equipment	3651	42	TV Sets, Radios, and Phonographs	
218	Prerecorded Records and Tapes	3652			
219	Telephones, Switchboards, Modems, Faxes, etc.	3661			
220	Radio and TV Broadcasting and Communication Equipment	3663 3669			
221	Electron Tubes	3671			
222	Semiconductors and Related Devices	3674			

## Mapping from Industries to Industrial Sectors, with SIC Codes

Ind #	National Industry Title	SIC Classification		State Level	
		Classification Code(s)	sec #	Industrial Sector	Title
223	Electronic Components, n.e.c.	3672 3675 3676 3677 3678 3679	38	Communications Equipment and Electronic Components	
224	Storage Batteries	3691	41	Other Electrical Equipment	
	Primary Batteries, Dry and Wet	3692			
225	X-ray and Irradiation Apparatus	3844			
226	Electromedical and Electrotherapeutic Apparatus	3845			
227	Engine Electrical Equipment	3694			
228	Magnetic and Optical Recording Media	3695			
229	Electrical Machinery, Equipment and Supplies, n.e.c.	3699			
230	Truck and Bus Bodies	3713	43	Motor Vehicles	
231	Truck Trailers	3715			
232	Motor Vehicles and Passenger Car Bodies	3711			
233	Motor Vehicle Parts and Accessories	3714			
234	Aircraft	3721	44	Aerospace	
235	Aircraft and Missile Engines, Propulsion Units and Parts	3724 3764			
236	Aircraft and Missile Parts and Auxiliary Equipment, n.e.c.	3728 3769			
237	Shipbuilding and Repairing	3731	45	Ships and Boats	
238	Boat Building and Repairing	3732			
239	Railroad Equipment	3740	46	Other Transportation Equipment	
240	Motorcycles, Bicycles, and Parts	3750			
241	Travel Trailers and Campers	3792	22	Lumber	
242	Mobile Homes	2451	43	Motor Vehicles	
243	Motor Homes	3716			
244	Transportation Equipment, n.e.c.	3799			
245	Search and Navigation Equipment	3812	46	Other Transportation Equipment	
246	Laboratory Apparatus and Furniture	3821	47	Instruments	
247	Measuring Devices and Environmental Controls	3822 3823 3824 3829	80	Medical Instruments and Supplies	
248	Surgical and Medical Instruments	3841			
249	Surgical Appliances and Supplies	3842			
250	Dental Equipment and Supplies	3843			
251	Watches, Clocks, Clockwork-Operated Devices, and Parts	3870	47	Instruments	
252	Laboratory and Optical Instruments	3826 3827			
253	Ophthalmic Goods	3850	81	Ophthalmic Goods	
254	Photographic Equipment and Supplies	3860	47	Instruments	
255	Jewelry, Precious Metal, Silverware, and Plated Wares	3911 3914-3915	48	Other Manufacturing	
256	Musical Instruments	3930			

## Mapping from Industries to Industrial Sectors, with SIC Codes

National		SIC Classification		State Level	
Ind #	Industry Title		Classification Code(s)	sec #	Industrial Sector Title
258	Games, Toys, and Play Vehicles	3942	3944	48	Other Manufacturing
259	Sport and Athletic Goods, n.e.c.	3949			
260	Pens, Pencils, and Other Office and Artists' Materials	3951	3952 3953 3955		
261	Costume Jewelry and Notions	3961	3965		
262	Manufacturing, n.e.c.	3991	3993 3995 3996 3999		
263	Railroads	4000	4740 pt. 4789	49	Railroads
264	Local and Suburban Passenger Transportation	4100		50	Trucking and Highway Passenger Transit
265	Trucking and Warehousing	4200	pt. 4789		
266	Water Transportation	4400			
267	Airlines	4500		51	Water Transportation
268	Pipelines	4600		52	Air Transportation
269	Transportation Services	4700		53	Pipeline
270	Telephone and Telegraph	4800	-4830	54	Transportation Services
271	Radio and TV Broadcasting	4830		55	Communications Services
272	Electric Utilities	4910	pt 4930	56	Electric Utilities
273	Natural Gas	4920	pt 4930	57	Gas Utilities
274	Water, Sewer, Steam, and Irrigation Services	4940	4950 4960 4970 pt 4930	58	Water and Sanitation
275	Wholesale Trade	5000	5100	59	Wholesale Trade
276	Retail Trade	5200	5300 5400 5500 5600 5700 5900	60	Retail Trade
277	Eating and Drinking Places	5800	pt 7000	61	Eating and Drinking Places
278	Banking	60		62	Finance and Insurance
279	Credit Agencies Other Than Banks	61	67 -6732		
280	Security and Commodity Brokers, Dealers, Exchanges, and Services	62			
281	Insurance Carriers	63			
282	Insurance Agents, Brokers, and Services	64			
283	Owner-Occupied Dwellings	No SIC		64	Owner-Occupied Housing
284	Real Estate	6500	6600 1531	63	Real Estate
285	Royalties		I-O sector, but no SIC		
286	Hotels, Rooming Houses, Camps, and Other Lodging Places	7000		65	Nonautomotive Repair Services, Hotels, and Lodging
287	Personal and Repair Services	7200	7620 7630 7640		
288	Personnel Supply Services	736		66	Research Labs, Computer and Engineering Services

## Mapping from Industries to Industrial Sectors, with SIC Codes

<b>National</b>		<b>SIC Classification</b>		<b>State Level</b>	
<b>Ind #</b>	<b>Industry Title</b>	<b>Classification Code(s)</b>	<b>sec #</b>	<b>Industrial Sector</b>	<b>Title</b>
289	Computer and Data Processing Services	737		66	Research Labs, Computer and Engineering Services
290	Research Laboratories and Management Consulting	8731 8732 8734 8740			
291	Equipment Rental and Leasing Services	7350			
292	Advertising	7310			
293	Other Business Services	7320 7330 7340 7380 7390 7690			
294	Legal Services	8110			
295	Engineering and Architectural Services	8710			
296	Other Professional Services, Including Accounting	8720 8900			
297	Auto Rental and Leasing	751		67	Automobile Repairs
298	Auto Repair and Services	75 other			
299	Motion Pictures	78, exc. 7840		68	Movies and Amusements
300	Video Tape Rental	7840			
301	Amusements and Recreation Services	7910 7920 7930 7941 7948 7990		68	Movies and Amusements
302	Private Hospitals	806		82	Private Hospitals
303	Physicians, Excluding Dentists	801 803		83	Physicians
304	Dentists and Miscellaneous Medical Services	0740 8020 8041 8043 8048 8070 8080		84	Other Medical Services
305	Nursing Homes	805		85	Nursing Homes
306	Education and Libraries	82		69	Education and Nonprofit Organizations
307	Social Services	83			
308	Museums, Nonprofits, Research, and Private Education	84 8650 8690 8733 6732			
309	Membership Organizations	86			
310	United States Postal Service	4311		70	Federal, State, and Local Government Enterprises
311	Federal Government Enterprises	No SIC			
312	State and Local Government Enterprises	No SIC			
317	Government Industry Compensation	No SIC		76	Government Industry Compensation

## **FEEDBACK FORM**

1. Does this publication provide the information you need to interpret the projections in which you are interested? If not, what are the most important missing items?

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2. Do the projections for your industry or state seem to be reasonable?

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3. Are there other published forecasts with which the projections for your industry or state can be compared?

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4. Which projections are most and least useful to you?

MOST

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LEAST

Direct defense purchases for an industry  
Indirect defense purchases for an industry  
Direct defense expenditures for a state  
Indirect defense expenditures for a state  
Geographic distribution of direct purchases  
Geographic distribution of indirect purchases

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Other: \_\_\_\_\_

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5. Comments on the format of the tables in this report:

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OPTIONAL

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